

The

CONSTRUCTOR

OFFICIAL PUBLICATION OF THE ASSOCIATED GENERAL CONTRACTORS OF AMERICA



Volume XXXV

JANUARY 1954

Number 1

● BUILDINGS

● HIGHWAYS

● AIRPORTS

● RAILROADS

● PUBLIC WORKS



A.G.C. Annual Review and 1954 Outlook—21

Minnesota Road Maintenance by Contract—36

Chamber of Commerce Highway Conference—40

1953

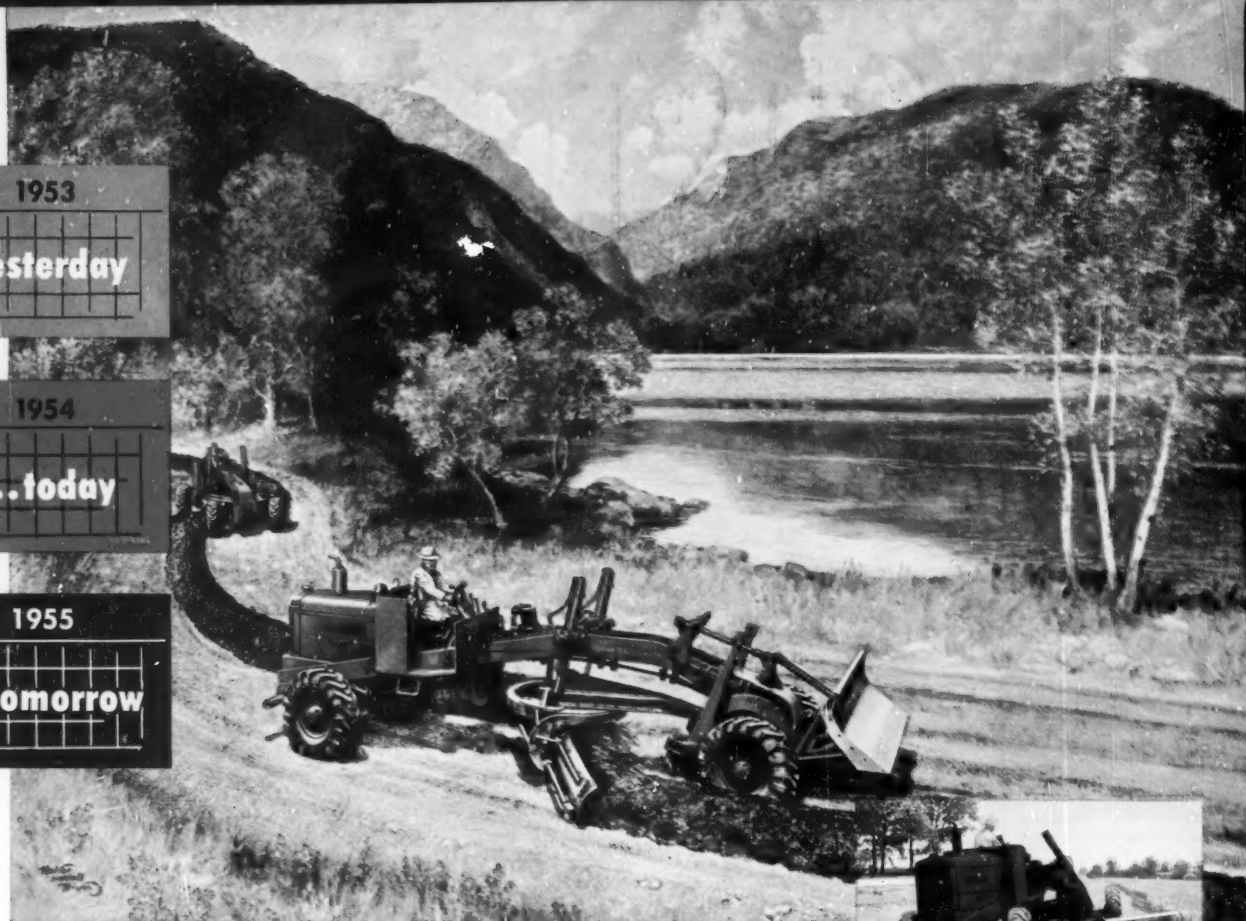
yesterday

1954

...today

1955

...tomorrow



...on job after job...every day...every year

**you've got to swing
that rear-end...**

for TOP performance

On jobs like these (and dozens more)—that unbeatable combination, all-wheel drive and all-wheel steer* does more and better work in less time and at lower costs!

* For the 17th Consecutive Year—Only Austin-Western has it.



FINISHING SLOPES



CLEANING DITCHES



BUILDING ROADS

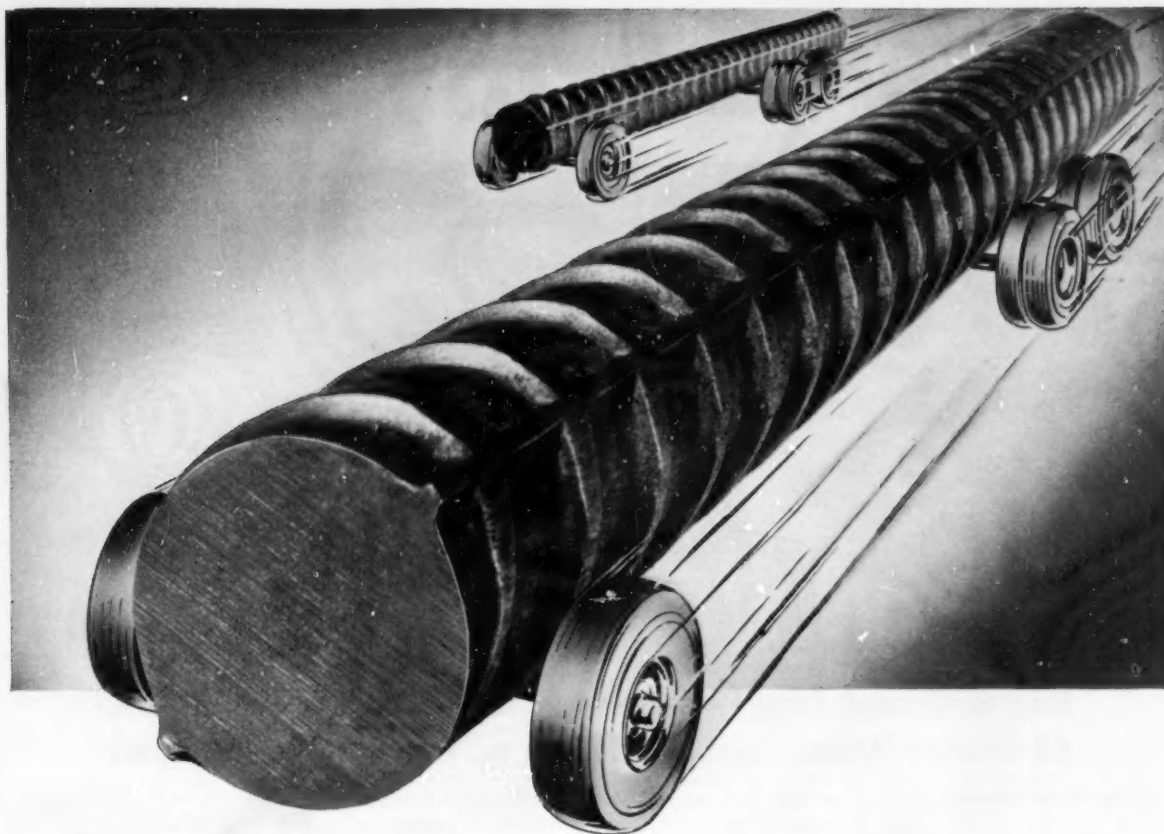
Austin-Western

Power Graders • Motor Sweepers
Road Rollers • Hydraulic Cranes



Construction Equipment Division

Manufactured by
AUSTIN-WESTERN COMPANY
Subsidiary of Baldwin-Lima-Hamilton Corporation
AURORA, ILLINOIS, U.S.A.



Your schedule sets the pace...

Ryerson Re-bars roll to meet it

You can be sure of getting your steel when you need it—no pile-ups—no delays—when you call on Ryerson for re-bar service.

Our deliveries are timed to arrive at your job as needed—to keep pours moving on schedule without costly waits or crew layoffs. And deliveries keep pace with your work—are slowed down or speeded up to meet smoothly any change in your schedule.

Ryerson reinforcing service is *complete*, too, from setting diagrams and bending details to dependably scheduled deliveries. If desired, your re-bars will be cut and bent to specifications and accurately metal tagged for quick placement.

To further simplify your purchasing, you can include all your other steel requirements with your re-bar order—reinforcing accessories, spirals, wire

mesh, forms for concrete joists, structurals—construction steel products of any kind.

So, on your next job, we suggest you call your nearby Ryerson plant for lump sum or average pound prices—and then count on dependable deliveries—timed to your schedule.

Hi-Bond Re-Bars for Greater Grip

First of the new high-strength bars, Hi-Bond reinforcing gives stronger construction and increased resistance to the formation of tensile cracks. Every bar meets or exceeds ASTM spec. A. 305.

PRINCIPAL PRODUCTS: CARBON, ALLOY & STAINLESS STEELS—BARS, STRUCTURALS, PLATES, SHEETS, TUBING, MACHINERY & TOOLS, ETC.

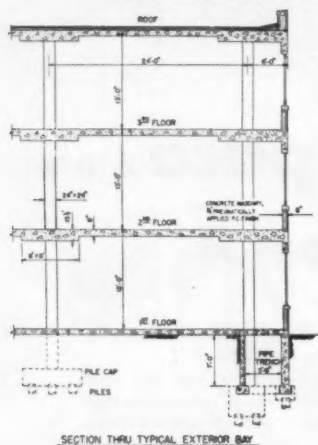
RYERSON STEEL

JOSEPH T. RYERSON & SON, INC. PLANTS AT: NEW YORK • BOSTON • PHILADELPHIA • CINCINNATI • CLEVELAND • DETROIT
PITTSBURGH • BUFFALO • CHICAGO • MILWAUKEE • ST. LOUIS • LOS ANGELES • SAN FRANCISCO • SPOKANE • SEATTLE

HOME OF THE **Army Dollar**



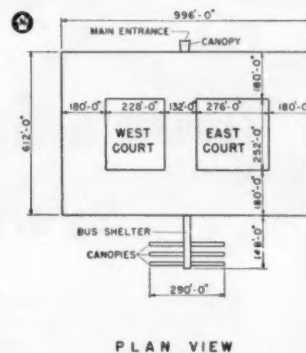
Economy-Minded Army Planning Cuts Cost by \$4-Million on 14-Acre, All-Concrete Structure, with 1¼-Million sq. ft. of Usable Floor Space



● New Finance Center at Fort Benjamin Harrison, near Indianapolis, second largest all-concrete administrative structure in the world, dwarfed only by the Pentagon, now houses Army Finance Operations, formerly scattered throughout the U. S.

Utilizing streamlined concreting methods, the 3-story, flat-slab, reinforced-concrete structure, with 1¼-million sq. ft. of usable floor space, was completed ahead of schedule, in spite of strikes, cyclone and blizzard. A total of 83,000 cu. yds. of concrete, pumped to all points within the 14-acre building area, was placed at a yard-a-minute pace.

Here is functional design, enduringly expressed in concrete, for utmost stability, durability, fire-safety and lowest annual cost—quality concrete, every yard of it, made with over 100,000 barrels of Lone Star Cement.



FINANCE CENTER, U. S. ARMY:
Fort Benjamin Harrison, Indianapolis
E. J. BEAN, Brig. Gen., U.S.A., Commanding
Supervision: U. S. ARMY CORPS OF ENGINEERS, Chicago
Architects-Engineers: HARLEY, ELLINGTON & DAY, Inc., Detroit
Ready-Mix Lone Star Concrete—Joint Venture:
READY MIXED CONCRETE CORP. • HESTON CONCRETE CO.
CARLSEN CONCRETE SUPPLY, all of Indianapolis
Masonry Units: SPICKELMIER COMPANY, Indianapolis

General Contractors—Joint Venture:
ST. ERY-RICHARDS CO., Chicago
C. E. YOUNGDAHL & CO., Inc., Long Island City, N. Y.
CORBETTA CONSTRUCTION CO., New York
JAMES McHUGH CONSTRUCTION CO., Chicago
Contractor for Water Supply, Sewers, Railroad Siding:
CALUMET PAVING COMPANY, Zionsville, Indiana
Piling: CASEY & CASE, Detroit



LONE STAR CEMENT CORPORATION

Offices: ABILENE, TEX. • ALBANY, N. Y. • BETHLEHEM, PA. • BIRMINGHAM
BOSTON • CHICAGO • DALLAS • HOUSTON • INDIANAPOLIS
KANSAS CITY, MO. • NEW ORLEANS • NEW YORK • NORFOLK
PHILADELPHIA • RICHMOND • ST. LOUIS • WASHINGTON, D. C.
LONE STAR CEMENT, WITH ITS SUBSIDIARIES, IS ONE OF THE WORLD'S LARGEST CEMENT PRODUCERS: 18 MODERN MILLS, 136,000,000 SACKS ANNUAL CAPACITY

The CONSTRUCTOR

CONTENTS

BUILDINGS • HIGHWAYS • AIRPORTS



RAILROADS • PUBLIC WORKS

GENERAL

- A.G.C. Cites Favorable Factors for 1954 Following Record Year 21
35th A.G.C. Annual Convention to Explore Outlook 23
American Standards Association Honors Contractor 25

LABOR RELATIONS

- Supreme Court Hands Down Important Decisions Affecting Construction William E. Dunn 27

LEGISLATION

- Pattern of Administration's Plans To Begin Unfolding This Month 32

CONTRACT METHOD

- Minnesota Road Upkeep By Contract, A Long History C. L. Mott 36

HIGHWAYS • AIRPORTS

- Highway Conference Supports BPR, Differs on Size of Federal Aid 40
\$575 Million in Federal Aid Apportioned to States 43
Contractor's Paver Eliminates Regular Forms 44

BUILDING

- Michigan AIA-AGC Group Reaps Benefits of Cooperation 49
MacIsaac and Menke Co. Solves Tough Foundation Problem 50
Camps in Japan Completed 51
Ike Gets Housing Report 51

HEAVY RAILROAD

- Work Progressing on Delaware River Bridge 54
Industry Eyes Atomic Energy Developments 56

ACCIDENT PREVENTION

- Big Increase in Reporting Firms Shows Growing Interest in Safety 60
Engineering Laws and Safety Dale Medsker 65
Hard Hats Still the Best Head Protection 66

CHAPTERS • BRANCHES

- Carolinas Branch Elects New Officers 69
Texas Group Plans Bid Clearing House 70
West Kentucky Group Holds First Meeting 70
Illinois Highway Picture Bright in 1954 75
California Expects Big Public Works Volume 76
A.G.C. Branch and Chapter Meeting Dates 79

ALSO IN THIS ISSUE

- News of the Month 5
Constructographs 7, 9, 11
Consumers' Price Index 13
Sidelights for Contractors John C. Hayes 15
Editorials 19
A.G.C. Forms and Reports 86
New Equipment and Materials 81
Advertisers' Products 90
Index of Advertisers 95

EXECUTIVE DEPARTMENT

H. E. FOREMAN Editor	J. D. MARSHALL Executive Editor
JOHN C. HAYES Legal Counsel	JOHN B. SWEM Assistant Treasurer

BOARD OF DIRECTORS

GEORGE B. WALBRIDGE President	WILLIAM MUIRHEAD Secretary-Treasurer
H. E. FOREMAN Vice-President	G. W. MAXON Director
	B. L. KNOWLES Director

EDITORIAL DEPARTMENT

WILLIAM E. WOODRUFF, Managing Editor
WILLIAM G. DOOLY, JR., News Editor



BUSINESS DEPARTMENT

M. S. BECK Business Manager	GENEVIEVE MORRIS Assistant
--------------------------------	-------------------------------

COVER

The \$8.3 million, four-lane bridge pictured on this month's cover links arterial highways of Pennsylvania and New Jersey across the Delaware River at the famous Delaware Water Gap. Opened Dec. 16, it was constructed by Johnson, Drake and Piper, Inc., and Bethlehem Steel Co. for the Delaware River Joint Toll Bridge Commission. Representing a number of difficult engineering problems surmounted, it actually is two bridges constructed side by side on 31 granite-faced pedestal T-type piers. J. E. Greiner Co., Baltimore, were consulting engineers.

Editorial and Advertising Offices

Munsey Building, Washington 4, D. C. (DIstrict 7-1306)
Eastern Advertising Office
Empire State Building, New York City 1, S. L. Feiss, Eastern Manager (LOngacre 4-6634)
Western Advertising Office
30 North La Salle Street, Chicago 2, L. B. Hammond, Western Manager (RANdolph 6-1843)
West Coast Advertising Office
M. D. Pugh, 2721 N. Marengo, Altadena, Calif. (SYcamore 7-2894)

The Official Publication of The Associated General Contractors of America, Inc.

Published monthly. Editorial and Executive Office, Munsey Building, Washington 4, D. C. Subscription price \$5.00 per year. 40¢ per copy (July \$2.00). Re-entered as second class matter June 10, 1940, at the Postoffice at Washington, D. C., under the Act of March 4, 1879. Copyright 1954 by The Constructor, Inc.



Cut area of intersection of Routes 2 and 50, Annapolis, Md.



JOB-ENGINEERED FINANCE PLANS



A prime \$1,054,135 contract set F. P. Asher, Jr. & Sons, Inc. to moving 300,000 yards of excavation and 80,000 yards of borrow for a cloverleaf intersection consuming 22,600 cubic yards of concrete.

A job of such proportions requires substantial working capital. Fast assistance for Asher was provided by a capital loan

through C.I.T. Corporation.

F. P. Asher says, "C.I.T.'s capital loan provided me with the money to move ahead on my job more efficiently."

C.I.T. Corporation is ready to meet your money needs—a capital loan or equipment financing—with plans "Job-Engineered" for your individual needs. For quick action, write or call one of the offices listed below.

C.I.T. CORPORATION

MACHINERY AND EQUIPMENT FINANCING

NEW YORK • CHICAGO • CLEVELAND • ATLANTA • MEMPHIS • PHILADELPHIA
SAN FRANCISCO • PORTLAND • LOS ANGELES • HOUSTON



All-time high volume of approximately \$46.5 billion in total construction was put in place in the U. S. in 1953, and favorable factors persist for a potential continued high rate of activity in 1954, The Associated General Contractors stated this month. New construction amounted to an estimated \$34.7 billion while maintenance totaled at least \$11.8 billion. The government spent about \$1 billion in overseas construction, principally for building bases. (Page 21)

Moderate decline in nation's business for 1954 was forecast by panel of prominent economists sponsored by the National Industrial Conference Board. At a New York meeting the group agreed that a lower rate of economic activity is in store for the coming year, with "substantial" elements of strength to resist contraction. A construction expert in the group believed any recession in construction volume would be "quite mild."

Commerce Secretary Weeks called the outlook for 1954 bright with a high over-all level of jobs and business activity and an abundance of newer and better products at attractive prices. Though the coming year may not equal the all-time record boom of 1953, Mr. Weeks said, general conditions offer sound reasons for 1954 being one of the "better years" in our economic history.

Cost of living, composed of retail prices for goods and services bought by urban wage earners and clerical workers, turned downward by 0.3% in November, the Bureau of Labor Statistics reported. This interrupted the gradual rise of the past eight months. Index stands at 115% of the 1947-49 average, 0.6% higher than a year ago and 13% above the June 1950 level. (Page 13)

35th annual A.G.C. convention to be held in Los Angeles March 1-4 is predicted to be the largest held yet by the association. Labor Secretary James P. Mitchell is scheduled to address the convention on March 2. The following day's afternoon session will see the economic outlook discussed in a symposium by outstanding representatives of government, industry, finance and labor. (Page 23)

2nd session, 83rd Congress was to convene Jan. 6 with a full agenda of pressing matters, many of which directly concern construction. This ses-

sion should be short because members will want to get home early for election campaigning. Besides the President's state of the union message Congress will receive his budget and economic reports this month. Other major subjects to be considered include taxation, social security, highways and other public works, judicial review of disputes arising out of federal contracts, and subcontractor legislation. (Page 32)

Supreme Court issued an important decision affecting labor cases when it ruled that the Taft-Hartley Act does not permit a state court to enjoin peaceful picketing affecting interstate commerce, even though such picketing violates a state law. (Page 27)

Labor-management disputes in 1953 dropped to 27 million man-days compared with 59 million days idle the year before, which was marked by the prolonged steel strike, the Department of Labor announced. Also, fewer workers were involved in the past year's disputes—2.3 million compared with 3.5 million in 1952. Ten of the 28 stoppages in 1953 involving over 10,000 workers were in the construction industry, which saw a 41-day tie-up in the northern and central California area.

Highway financing conference of the U. S. Chamber of Commerce revealed the following salient points: great renaissance of road building overdue, strong support for Bureau of Public Roads, and conflicting views on repeal of the federal gasoline tax, size of federal-aid program and the toll road mileage to be laid down. (Page 40)

Apportionment of \$575 million in federal aid to highways in states for fiscal year beginning July 1 was announced last month by the Bureau of Public Roads. It provides \$247.5 million for the primary system, \$165 million for secondary roads, \$137.5 million for urban highways, and \$25 million for the interstate system (Page 43). Later in the month Secretary of Commerce Weeks announced that \$22.5 million had been apportioned for national forest highways with California and Oregon receiving over \$3 million each and Idaho over \$2.3 million.

Atomic Energy Commission's decision to build a full-scale atomic energy plant for the generation of electric power, rather than have private indus-

try do it on its own, was based on the need for this country to take the lead in the peaceful application of atomic energy as well as the development of atomic weapons, officials state. No site has been selected for the project expected to cost "tens of millions of dollars" and produce a minimum of 60,000 kw. (Page 56)

Defense spending study currently going on is aimed at bringing the country's military budget down to about \$32 billion a year by 1957, it was reported. This would amount to a cut of \$10 billion from this fiscal year's defense spending level, the highest in the nation's peacetime history.

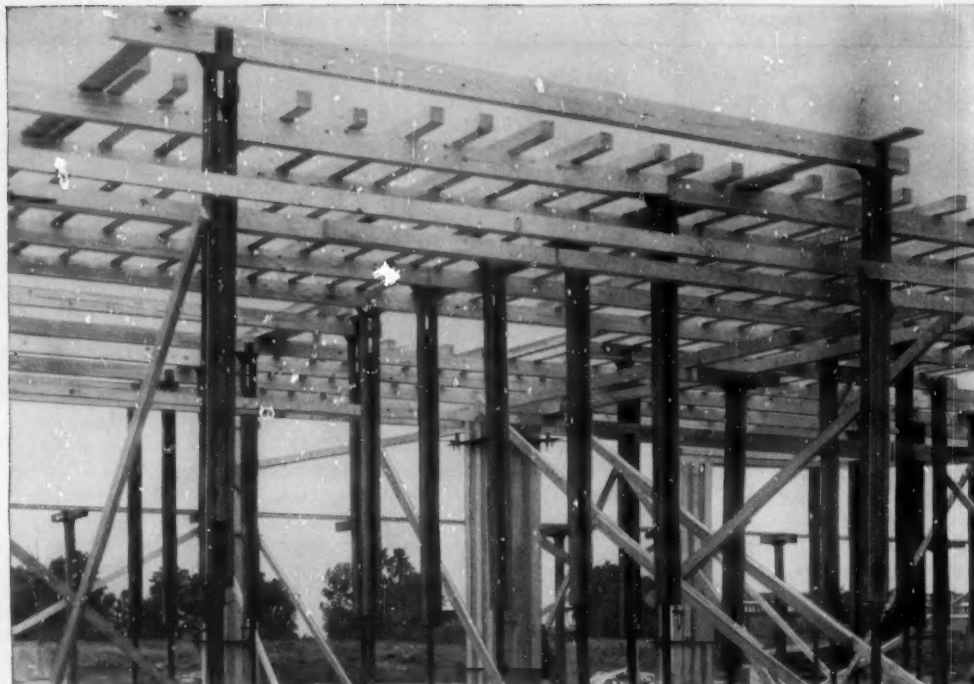
Meanwhile, Congress authorized the Army, Navy and Air Force to spend \$270 million for building new or improved bases at home and abroad. The money came from unspent funds previously appropriated by Congress. A new law requires the Defense Department to get approval of the House and Senate Appropriations Committees to use the money.

Spanish bases are due to cost about \$150 million in the next "two or three years" Assistant Defense Secretary Franklin G. Floete told a House appropriations subcommittee in secret session in November. This "first phase" of the program will include construction of three Air Force bases and one for the Navy. Succeeding phases have not yet been determined, according to Mr. Floete's testimony just made public.

Advisory Committee on Government Housing Policies submitted to President Eisenhower a 374-page report containing recommendations, which if enacted by Congress, would provide the basis for building over one million new homes a year. (Page 51)

A.G.C. chapters filing safety reports with the national office increased 54% over 1952, the association announced this month. For the past reporting year, more than 300 contractors reported no lost-time accidents. Plaques for first place winners and certificates for second and third place winners will be presented at the annual convention in Los Angeles March 1. (Page 60)

Maintenance by contract of Minnesota roads has a long history, C. L. Motl, chief maintenance engineer for the state's department of highways, writes in this month's *Constructor* on Page 36.



Metal Scab & Tee Head. Scab slides down flush with top of shore head when not in use.

Note use of Symons Column Clamps.

Symons Safety Shores Cut Costs on All Shoring Jobs

Symons Safety Shores keep all shoring jobs moving on a dependable, time-saving, cost cutting schedule. Their trouble-free performance is a matter of record. Here are 4 reasons why—

SAFE-SWAY BRACING . . . easily secured at any point.

SCAB, TEE HEAD and EXTENSION . . . enable shore to fill every shoring need.

WORKMEN PREFER . . . handling this lighter, easily adjusted shore.

LIFTING JACK and ATTACHED WEDGE . . . make possible easy reshoring under heavy load.

Profit by the experience of the Construction Industry's leading builders. Use Symons Shores for those heavy load shoring jobs. There is no better way to make that tough job easy.

Send for Symons Engineering Tables for slabs, columns and beams. These tables will be a big help to your estimator, superintendent and carpenter foreman for determining forming, shoring and clamp requirements.

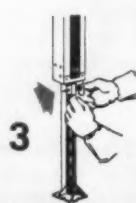
LARGE STOCKS OF SHORES AVAILABLE FOR RENTAL
RENTAL MAY APPLY ON PURCHASE—90 DAY OPTION



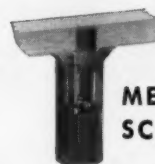
1 Lift outer wood section to height desired



2 Adjust up or down to smallest fraction



3 Safety Wedge takes the load



METAL SCAB



TEE HEAD



EXTENSION



Symons

CLAMP & MFG. CO.

4259 Diversey Ave. Dept. A-4 Chicago 39, Ill.

Send catalog and information:

☐ Shores ☐ Column Clamps ☐ Forms

Name _____

Firm Name _____

Address _____

City _____ Zone _____ State _____

A Series of Graphs Outlining the Construction Trend

Compiled by The Associated General Contractors of America

TREND OF CONSTRUCTION COSTS

The average of construction costs in the principal construction centers of the United States for December stands at Index Number 418 according to the A.G.C. Index. The cost figure for December 1952 was 399. The 1913 average equals 100.

WAGE AND MATERIAL PRICE TRENDS

The average of wages in the principal construction centers of the United States stands at 587 for December. One year ago the average stood at 557. The average prices paid by contractors for basic construction materials for December stand at In-

dex Number 306. The average a year ago stood at 294. The 1913 average, again, equals 100.

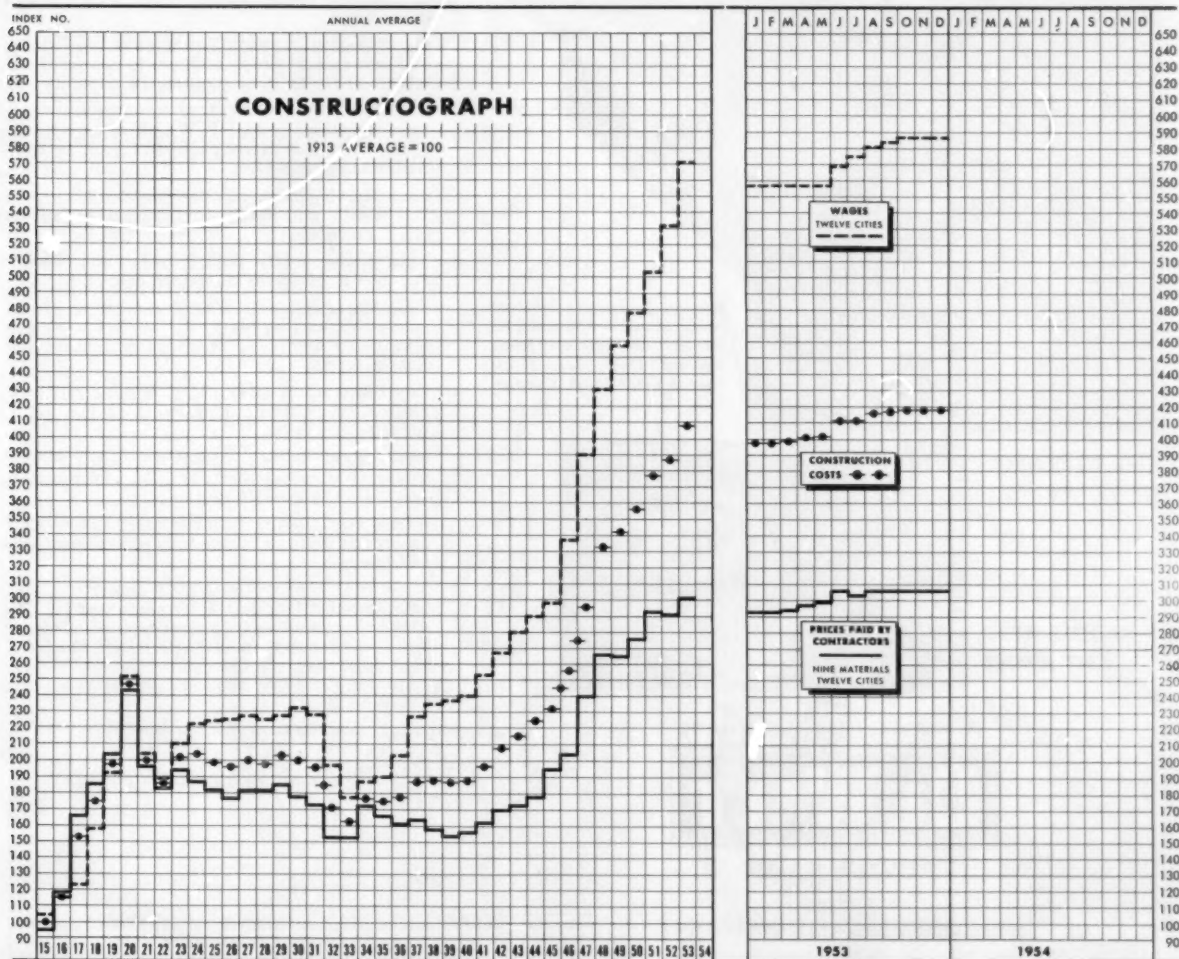
CONTRACT AWARDS IN 37 STATES

The volume of contracts awarded during November (Index Number 253, based on 1936-38) is a decrease of 91 points from October and an increase of 16 points from November 1952. (F. W. Dodge Corp.)

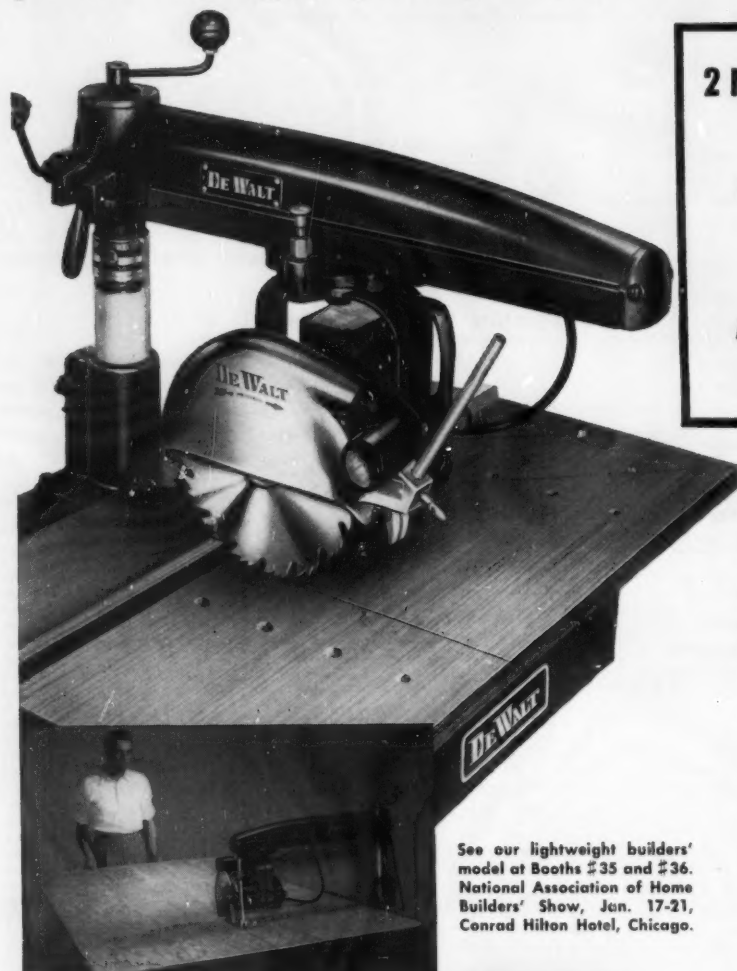
REVENUE FREIGHT LOADINGS

Revenue freight loaded during the first 51 weeks of 1953 totaled 37,821,784 cars. For the same period in 1952, loadings amounted to 37,464,455 cars. This represents an increase of 1%.

● Wage, Material Price and Construction Cost Trends



Here's your BIGGEST VALUE in power saws today...a portable, big-capacity DE WALT for only \$229 delivered!



**RIPS TO CENTER
OF 48" PANEL**

**DADOES AT
ANY ANGLE**



See our lightweight builders' model at Booths #35 and #36. National Association of Home Builders' Show, Jan. 17-21, Conrad Hilton Hotel, Chicago.

2 New Models for Small Builders

VALUE NO. 1

Model MBC DE WALT 9" Saw

Only \$229 Delivered

VALUE NO. 2

Model GWF DE WALT 10" Saw

Only \$348 Delivered

Today...your best bet to reduce job costs and make bigger profits is a new portable DE WALT...especially designed for small builders...priced low enough to pay for itself on the first house it helps build with savings these ways:

Big Capacity...new 9" saw cuts 2½" deep, 10" saw cuts 3" deep; both rip to center of 48" wide panels to give you ample capacity for house jobs.

Save Handling...put DE WALT alongside the lumber pile and pre-cut all your framing from a planned cutting list.

Save Marking...lay out one piece, set up your DE WALT and easily duplicate all cuts from ONE marking.

Save Fitting...DE WALT pre-cuts perfectly the first time, saves the added cost of fitting.

Save Material...DE WALT cuts from above, easily follows line marks for perfect work and eliminates spoilage; re-works odd sizes into usable pieces.

Save Millwork Cost...DE WALT shapes, dados, etc., turns out millwork on the job...no more mill costs.

Save Repair Costs...direct drive DE WALT motor is grease-sealed for life...no brushes, no repairs to worry about.

Double Use...after framing carry DE WALT inside to "build in" those cozy extras that help sell houses.

Visit your nearby DE WALT dealer and pick up a low-cost DE WALT for your next job. It's easy to operate...easy to move around. And you get low-cost DE WALT PERFORMANCE that produces a better house for less money...more profit to you! Write for complete DE WALT catalog.

De Walt Inc.  Lancaster, Pa.

DE WALT

POWER SAWS

Subsidiary of
AMERICAN MACHINE & FOUNDRY COMPANY
New York

De Walt Inc., Dept. C-1, Lancaster, Pa.

Please send me full details on the BIGGEST VALUE in power saws today

NAME _____

ADDRESS _____

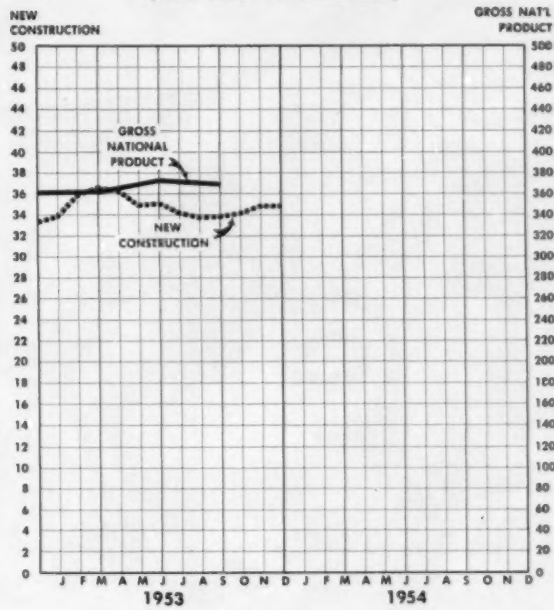
CITY _____ ZONE _____ STATE _____

(Attach to business letterhead and mail)

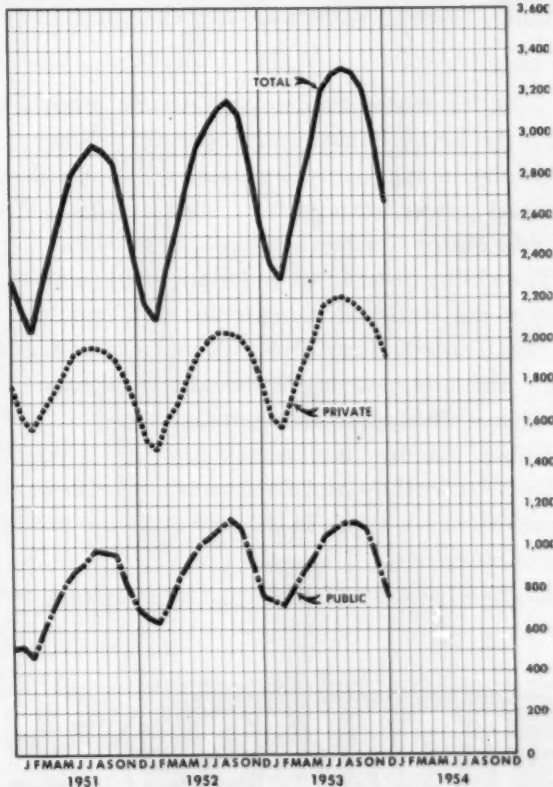
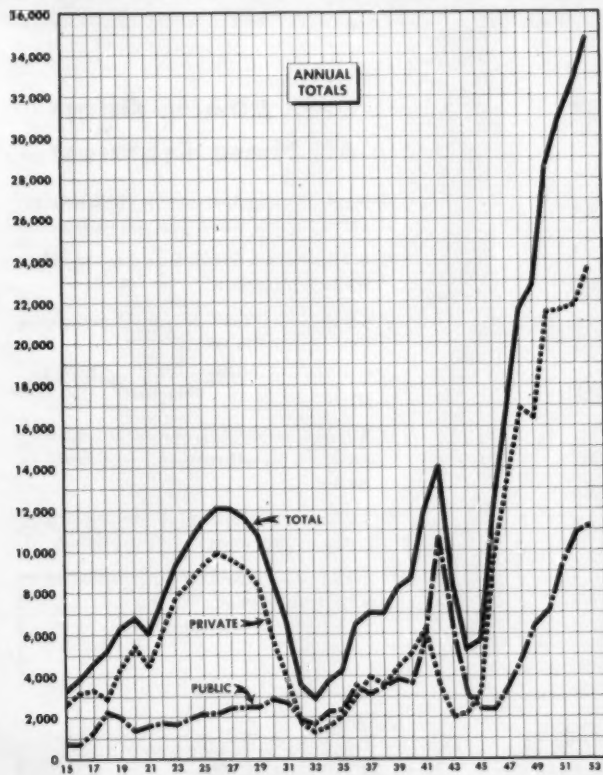
● **TOTAL Construction Compared with Gross National Product**
(BILLIONS OF DOLLARS)



● **NEW Construction Compared with Gross National Product ***
(BILLIONS OF DOLLARS)



● **New Construction Activity (MILLIONS OF DOLLARS)**



DATA SUPPLIED BY DEPTS. OF COMMERCE AND LABOR

ADAMS Motor Graders —built to handle toughest jobs . . .



● Jobs for motor graders don't come much tougher than the heavy bank-cutting operation shown above. Working in rugged, rocky country like this demands unusual power, strength and stamina—the kind that Adams Motor Graders are world-famous for.

The ability to stand up under punishing work is only one of the many advantages you will find in Adams Motor Graders. They also give you a combination of time- and money-saving features not to be found in any other machines. (See listing at right.)

Before you buy any motor grader, let your local Adams dealer show and demonstrate what these advantages can mean to you in the way of higher production and lower costs.

J. D. ADAMS MANUFACTURING CO. • INDIANAPOLIS, INDIANA

Only ADAMS Offers All These Features:

- NEW CONSTANT-MESH TRANSMISSION—quick, easy, positive gear shifts.
- 8 FORWARD SPEEDS—up to 26 mph. for fast transport.
- 4 REVERSE SPEEDS—up to 13 mph. Save time on shuttle work.
- 3 CREEPER SPEEDS—low as ¼ mph. (Optional).
- RUBBER-MOUNTED ENGINE—floating power—no vibration transmitted to grader.
- DUAL BRAKING SYSTEM—quicker, easier, safer stops, with less effort.
- FOOT ACCELERATOR—for easier, safer overland travel.



Motor Graders



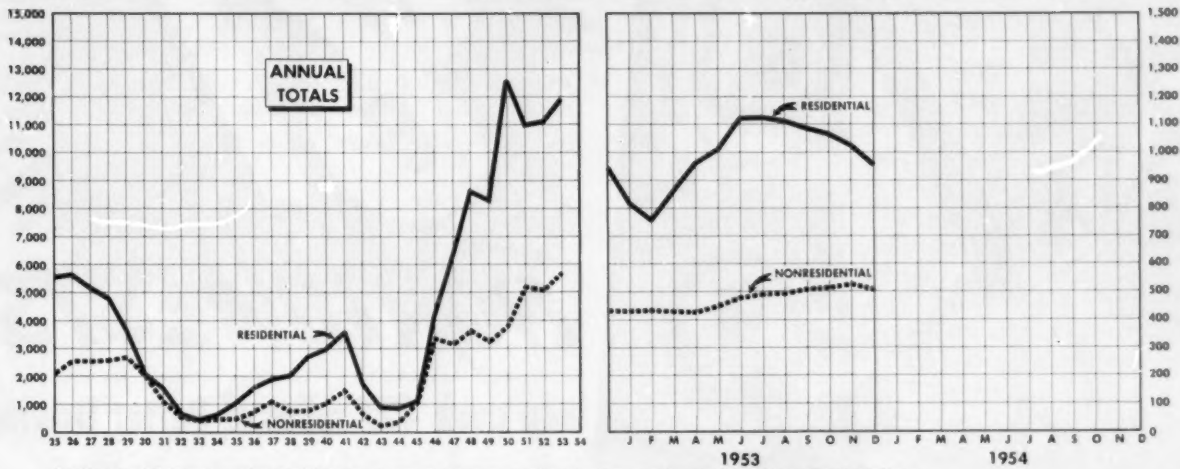
Travelers



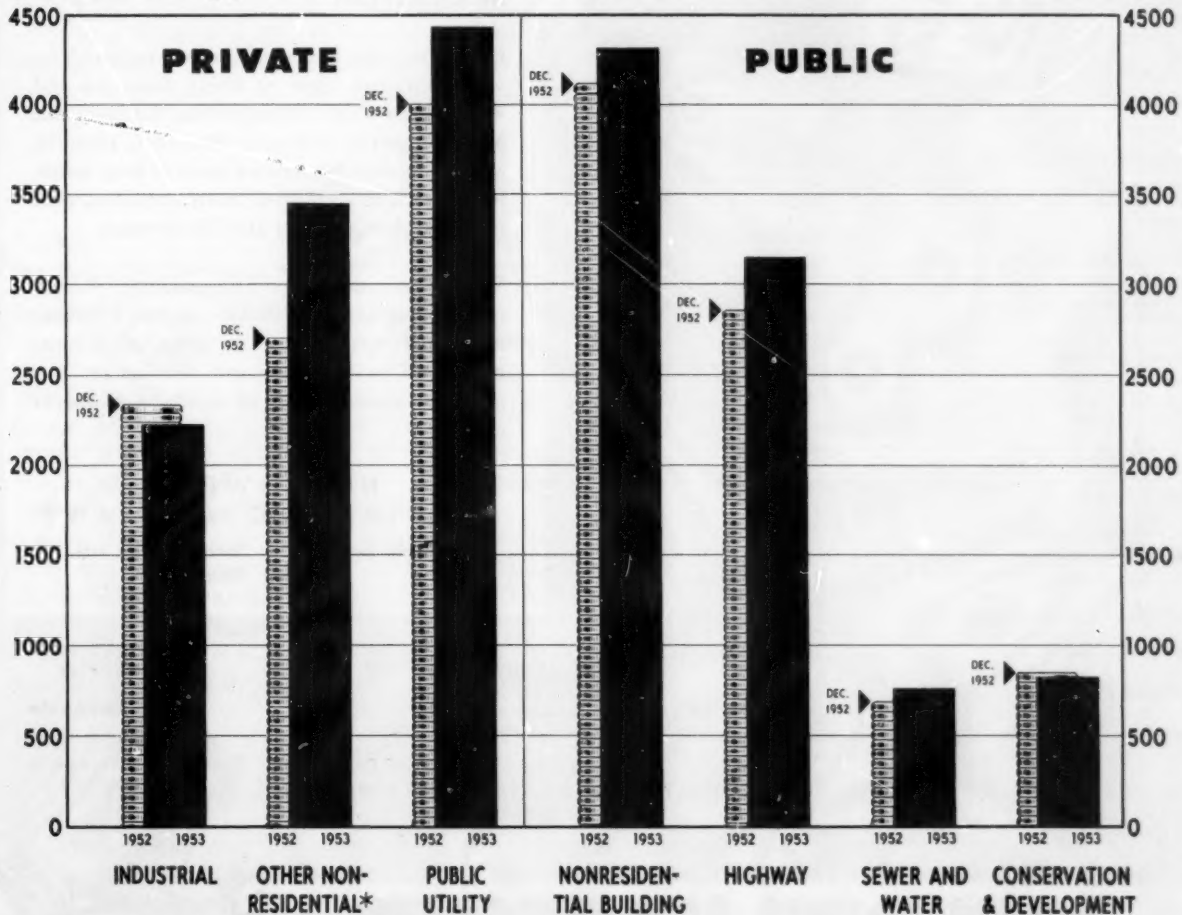
Pull-Type Graders

NEW CONSTRUCTION ACTIVITY

● Private Residential and Nonresidential Building * (MILLIONS OF DOLLARS)



● Selected Types: (CUMULATIVE, MILLIONS OF DOLLARS) 1952, 1953 VOLUME THROUGH DECEMBER



64

NORTHWEST

A NEW NUMBER

on the New York Thruway

81

NORTHWESTS

help push 427 miles of Better Driving

Figure it up! That averages a Northwest every 6 miles across the full length of this tremendous job!

Check over the names of the contractors. You will recognize them as being from far and wide—New York, Pennsylvania, Connecticut, Massachusetts, Indiana, Missouri, Illinois, Minnesota—all Northwest users of long standing. In fact, this group of contractors has, over the years, bought over 200 Northwests.

When you come to purchase your next shovel, crane, dragline, pullshovel or truck crane, remember these figures. It comprises a testimonial to performance and satisfaction that no other manufacturer of similar equipment can offer.

NORTHWEST ENGINEERING COMPANY

1502-8 Field Building, 135 South La Salle Street
Chicago 3, Illinois

MT. VERNON CONTRACTING CO.
Healy & Gamino
Working in Rockland County, N. Y.
9 Northwests

SAVIN CONSTRUCTION CORP.
in Green County
and Madison County, N. Y.
4 Northwests

COLLINS BROTHERS
in Albany County
and Herkimer County, N. Y.
7 Northwests

D. S. FRIONE, INC.
in Albany County, N. Y.
3 Northwests

WHITE OAK CONTRACTING CO.
in Schenectady County, N. Y.
2 Northwests

ARCOLE MIDWEST CORPORATION
in Schenectady County, N. Y.
2 Northwests

B. PERINI & SONS
in Schenectady County
and Montgomery County, N. Y.
4 Northwests

GRAND-VIEW CONSTRUCTION CO.
in Montgomery County, N. Y.
2 Northwests

S. J. GROVES & SONS CO.
in Montgomery County, N. Y.
2 Northwests

SENECA COUNTY
1 Northwest

D. W. WINKLEMAN INC.
in Oneida County, N. Y.
4 Northwests

ONTARIO COUNTY
2 Northwests

MONROE COUNTY
1 Northwest

ARUTE BROTHERS
in Oneida County, N. Y.
1 Northwest

A. S. WIKSTROM
in Cayuga County, N. Y.
2 Northwests

R. E. DUTCHER
in Monroe County, N. Y.
1 Northwest

C. P. WARD
in Monroe County, N. Y.
1 Northwest

FRAZIER DAVIS CONSTRUCTION CO.
in Erie County, N. Y.
3 Northwests

E. G. DETELKE & SON
Working in
Suffern and Herkimer Counties, N. Y.
10 Northwests

**WALSH CONSTRUCTION CO. &
C. J. LANGENFELDER & SON**
in Rockford County, N. Y.
9 Northwests

JOHN ARBONIO
Working near Kingston, N. Y.
6 Northwests

A. L. DAIGHERTY CO.
Working near Newburgh, N. Y.
5 Northwests

NORTHWEST

CRAWLER and TRUCK MOUNTED SHOVELS • CRANES • DRAGLINES • PULLSHOVELS



For Moderate Income Families in Large Cities

(Formerly referred to as the "Cost of Living Index," compiled by the Bureau of Labor Statistics)

The Consumer Price Index, composed of the retail prices of goods and services bought by the nation's urban wage earners and clerical workers, turned downward by 0.3% in November 1953, the Bureau of Labor Statistics reported. This interrupted the gradual rise of the past eight months.

The index for all items for November was 115% of the 1947-49 average, 0.6% higher than a year ago and 13% above the level of June 1950. Converted to a base of 1935-39 equals 100, the November index was 192.3.

Food prices, declining for the third consecutive month, dropped 1.4% during the month and were mainly responsible for the decrease in the All Items index. Transportation costs were 0.5% lower than in October, and apparel prices were unchanged on the average.

All other groups of items rose during the month: housing, 0.2%; medical care, 0.4%; personal care, 0.2%; reading and recreation, 0.3%; and other goods and services, 0.4%.

The food index drop of 1.4% was the largest since February when, as in November, prices of meats and eggs dropped considerably. The food index was 112 in No-

vember, 2.6% below a year ago, but 11.4% above June 1950.

The Consumer Price Index, formerly calculated on the base 1935-39=100, was converted beginning January to the new base 1947-49=100 in compliance with recommendations of the Bureau of the Budget.

A portion of this index below indicates the average changes in retail prices of selected goods, rents and services bought by the average family of moderate income from September 15, 1951 to November 15, 1953.

They are represented here for use by employers who may wish to take these cost of living data into consideration when contemplating adjustments of wages based on increased living costs.

Aside from the change of the base years, the revised index includes prices of about 300 items, compared to some 200 for the previous index. The "weight" assigned to items is now based on facts concerning family expenditures of wage earners and clerical workers found in a survey on consumer expenditures conducted by the bureau.

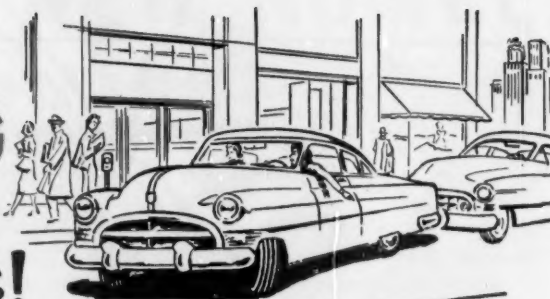
The first five cities in the table below are checked and reported on monthly. The other 15 cities are surveyed and their indexes published quarterly.

	1951			1952			1953		
	SEPT.	OCT.	NOV.	SEPT.	OCT.	NOV.	SEPT.	OCT.	NOV.
Average.....	111.6	112.1	112.8	114.1	114.2	114.3	115.2	115.4	115.0
New York, N. Y.....	110.3	110.6	111.2	112.4	112.4	112.9	113.2	113.3	112.9
Chicago, Ill.....	112.6	113.6	114.1	115.0	115.0	115.1	116.6	117.1	116.4
Los Angeles, Calif.....	112.0	112.4	113.5	115.0	114.8	115.1	116.2	116.3	116.1
Philadelphia, Pa.....	111.8	112.2	113.6	114.7	114.6	114.7	115.2	115.3	114.7
Detroit, Mich.....	112.0	112.7	113.4	114.7	115.5	115.3	116.9	117.2	116.7
Atlanta, Ga.....	.....	.....	115.6	.....	.....	117.1	117.6	.....	.....
Baltimore, Md.....	110.8	.....	.....	115.0	.....	.....	115.0	.....	.....
Boston, Mass.....	110.4	111.4	111.8	113.2	113.4	112.7	.....	113.8	.....
Cincinnati, Ohio.....	110.9	111.0	111.5	113.2	113.3	112.5	115.3	.....	.....
Cleveland, Ohio.....	.....	.....	112.7	.....	.....	113.6	.....	.....	115.5
Houston, Texas.....	114.6	114.8	115.2	115.5	116.1	116.0	.....	.....	117.3
Kansas City, Mo.....	.....	112.0	.....	.....	115.2	.....	.....	115.7	.....
Minneapolis, Minn.....	110.6	.....	.....	114.8	.....	.....	.....	116.6	.....
Pittsburgh, Pa.....	111.8	112.5	112.9	113.2	113.4	113.5	.....	114.7	.....
Portland, Ore.....	.....	113.0	.....	.....	115.0	.....	.....	116.1	.....
St. Louis, Mo.....	111.6	.....	.....	115.5	.....	.....	117.1	.....	.....
San Francisco, Calif.....	110.2	.....	.....	114.5	.....	.....	116.9	.....	.....
Scranton, Pa.....	.....	.....	111.6	.....	.....	113.1	.....	.....	113.4
Seattle, Wash.....	.....	.....	113.9	.....	.....	115.6	.....	.....	116.4
Washington, D. C.....	.....	.....	112.5	.....	.....	113.8	.....	.....	114.3

GALION

BOOSTER STEERING

Smooth, Effortless, Precise -just like on fine motor cars!



Hydraulic Booster Steering was recently adapted to fine automobiles — to eliminate hard work. Over seven years ago it was applied to GALION 118, 104 and 203 Motor Graders — for the same reason.

Experienced grader operators are enthusiastic about GALION booster steering because it eliminates tiring strain and gives them complete command of the grader under all service conditions.

Another GALION feature is large front tires (same size as on the rear wheels).

Both Hydraulic Booster Steering and large front tires are included as standard equipment.

**Why pay extra?
Why take less?
GALION is the best buy!**

OTHER HIGH-QUALITY GALION FEATURES

- Positive, four-wheel, all-gear tandem drive.
- Constant-mesh transmission.
- Time-tested, fopl-proof hydraulic system — designed and built by Galion.
- Extra-rugged, box-type single member frame; high-arched for maximum blade adjustment.
- Correct weight distribution.
- Powerful, quick-starting diesel engines.

Write for literature.

Ask your Galion Dealer to show you the color movie "GALION MAKES THE GRADE"

Hydraulic Booster Steering has been STANDARD EQUIPMENT FOR OVER 9 YEARS

ESTABLISHED 1901 GALION

MOTOR GRADERS • ROLLERS

THE GALION IRON WORKS & MFG. CO., General and Export Offices, Galion, Ohio, U.S.A.

Cable address: GALIONIRON, Galion, Ohio

Sidelights for Contractors

By John C. Hayes, Counsel

Hayes and Hayes, Munsey Building, Washington, D. C.

Taxes

Net Operating Loss.—Where the owner of a number of inherited properties devoted most of his time to the operation and management thereof, but made only occasional sales when particular parcels became unprofitable to rent, the Court of Claims held that losses on the sales were not attributable "to the operation of a trade or business regularly carried on by the taxpayer" and could not be included in computing a net operating loss carry-back. While it was conceded that the owner regularly carried on the business of managing property for the production of rental income, the court concluded that the operation of such a business does not ordinarily entail the sale of realty.

Similarly, in a second case, where the individual owner of a retail dry goods establishment sold the store equipment as an incident to closing down the business, the Court of Claims refused to allow the resulting loss from the sale as a net operating loss, since the taxpayer was not in the business of selling such property as a part of his regular operations.

Fraud Penalty.—In line with the rule that allows interest to be charged on tax deficiencies although later abated by a net operating loss carry-back from another year, the Tax Court decided that a 50 per cent fraud penalty was properly computed upon the basis of an original tax deficiency before application of a net loss carry-back from a subsequent year. The court approved the assessment of the fraud penalty against a corporation, imputing to it the fraud of its president and sole stockholder who had sold corporate goods, retained the proceeds, and signed a corporate tax return from which such sums were omitted.

Accrual of Income.—The Tax Court has ruled that an accrual-basis contractor repairing state highways should have accrued his income therefrom in the year when the state highway commission accepted the completed work rather than in the later year to

which actual payment was postponed following the formality of filing certificates by the commission and the contractor. Federal law rather than state law, the court said, is controlling in determining the accrual of income for federal tax purposes.

Closing Agreements.—The Secretary of the Treasury has delegated to the Commissioner of Internal Revenue the former's authority under Section 3760 to approve closing agreements relating to the liability of any person in respect of any internal revenue tax for any taxable period. Such agreements are final and conclusive, except upon a showing of fraud or malfeasance or misrepresentation of a material fact.

Failure to File Returns.—A circuit court held that a 25 per cent negligence penalty, but not a 50 per cent fraud penalty, was properly assessed against an elderly business man who testified that he knew nothing about bookkeeping or that he was required to file tax returns. The court distinguished between mere passive failure to perform a tax duty and an affirmative attempt or practice of fraud to evade a tax.

Partnership.—A partner who had agreed to pool his outside earnings with the partnership income was held by the Tax Court to be taxable on the amount of his outside earnings assigned to the partnership or on his 40 per cent distributive share of the partnership income, whichever was the greater.

Salary after Resignation.—Where a former employee received in the year following his resignation payments totaling a year's salary, in accordance with the former employer's general policy in such cases, and the employer withheld income tax therefrom, the Tax Court concluded that the amounts received constituted taxable income, rather than a gift, to the employee.

Stock Option.—Under the income tax law and regulations applicable to 1944, a circuit court decided that a corporate executive had realized no taxable income in that year on exercising an option to acquire stock at less than its market value in his employing corporation, under a plan intended to give key personnel a proprietary interest in the business rather than increased compensation for their services.

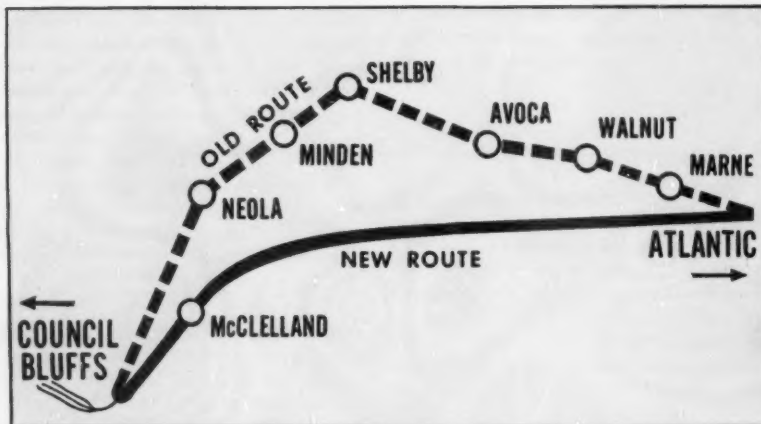
Payment.—A circuit court has ruled that delivery to an exempt employees' pension trust before the end of a taxable year by a solvent, accrual-basis taxpayer of its negotiable demand note, which is worth its face value and is later paid in cash, constitutes payment and thus is deductible within the meaning of Code Section 23(p)(1)(E). The court stated that if a check is sufficient as payment, it saw no reason why a negotiable demand note payable at a bank is not likewise sufficient.

Estate Tax.—In computing the value of an estate, Series G government savings bonds owned by the deceased must be included at par, according to the Tax Court, rather than the lower redemption value at the time of death of the decedent.

Transportation Tax.—The Internal Revenue Service has issued a ruling to the effect that the government exemption from the transportation tax applies to that part of a carload shipment consigned to a commercial firm which is unloaded enroute for a state government or political subdivision thereof; or to that part of a carload shipment consigned to a state government or subdivision thereof and delivered thereto, although another part may be unloaded enroute for a commercial firm. If the shipping charges are not shown separately, the carrier must collect the tax on the entire charge, but the taxpayer may file a refund claim.

7,000,000 yards moved on Rock Island's Atlantic cut-off

GENERAL DODGE'S ENGINEERING DREAM BECOMES REALITY AFTER 97 YEARS



Dead mud made much of the loading difficult. Here a Cat DW21 and Scraper are push-loaded by a D8. Often 3 pushers were required.

In September, 1953, the final spike was driven on the Atlantic-Council Bluffs cut-off of the Rock Island Lines. When the original main line to Denver was undertaken, back in 1857, General Granville M. Dodge recommended that it follow the new route. But picks and shovels and horse-drawn scrapers couldn't handle the immense cut-and-fill operation involved. The task had to wait for today's powerful earth-moving machines.

The new line goes directly across the rough, hilly terrain of western Iowa, cutting the distance from 59.38 miles to 49.18, and reducing curves and grades. Cuts up to 70 feet were made through hills to fill the adjacent valleys.

The contract, completed by Orville Eblen Construction Co., of Atlantic, Iowa, called for the moving of 7,000,000 cubic yards of earth. Many of the hills that had to be cut through contained pockets of dead mud, between layers of impervious glacial clay. This made the going tough for normal scraper loading.

The bulk of the material was moved by 17 big-wheeled Caterpillar* units—twelve DW21s and five DW20s with Scrapers. The spread also included seventeen D8 Tractors, two D7s and six No. 12 Motor Graders.



This is typical of the Iowa terrain traversed by the cut-off. Cuts up to 70 feet deep were common.

Mr. Eblen reports: "Both the DW21s and DW20s are well balanced, with adequate power, rugged transmissions, proper-sized rubber and strongly constructed scrapers. Yet at times it took the combined push of three D8s to overcome the tough mud conditions.

"In the face of these difficulties, our Cat* units have averaged over 300 hours of work per month on this job. I think no other machine built could have made such a record on this particular job."

The Atlantic cut-off has been an expensive undertaking, but it should well repay the Rock Island Lines. Faster schedules and lower hauling costs will be of direct benefit to the railroad, to shippers and to the traveling public.

*Both Cat and Caterpillar are registered trademarks—®

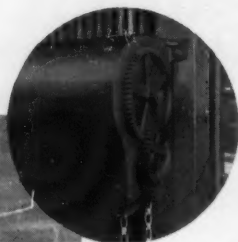


A Caterpillar No. 12 Motor Grader drives through the heavy going. 42 pieces of big yellow equipment were used on the job.

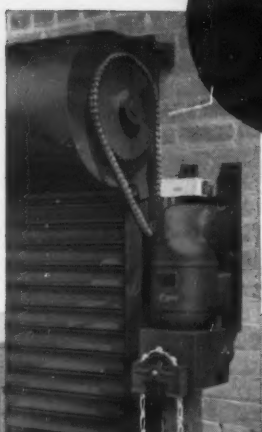
CATERPILLAR TRACTOR CO., PEORIA, ILLINOIS, U.S.A.

Rolling Steel Doors

Manually, Mechanically, or Electrically Operated



**MAHON
CHAIN-GEAR
OPERATOR**



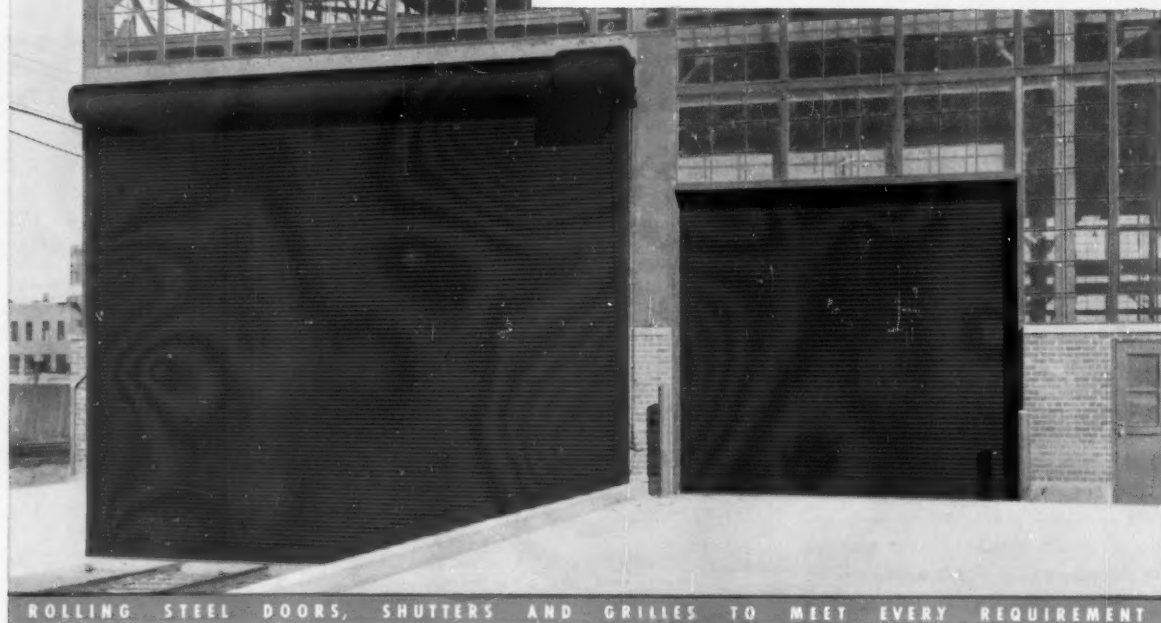
**MAHON STANDARD
POWER OPERATOR 920-P**

Two Special Power Operators are also available to meet unusual requirements including JIC Stds.

An electrically operated rolling steel door meets present-day requirements more fully than any other type of door. The quick-opening, quick-closing, vertical roll-up action of a rolling steel door requires no usable space either inside or outside the door opening . . . there are no overhead tracks or other obstructions to interfere with crane operations—materials can be stacked within a few inches of the door curtain on either side. No other type of door offers these inherent advantages of space economy and compactness in operation . . . in addition, rolling steel doors are permanent—their all-metal construction assures a lifetime of trouble-free service and maximum protection against intrusion and fire. When you select a rolling steel door, check specifications carefully . . . you will find many extra-value features in Mahon doors—for instance, the galvanized steel material, from which the interlocking curtain slats are rolled, is chemically cleaned, phosphated, and treated with a chromic acid solution to provide paint bond, and, the protective coating of synthetic enamel is baked on at 350° F. prior to roll-forming. You will find other materials and design features in Mahon doors that add up to a greater over-all dollar value. See Sweet's Files for complete information including Specifications, or write for Catalog G-54.

THE R. C. MAHON COMPANY

Detroit 34, Michigan • Chicago 4, Illinois • Representatives in all Principal Cities
Manufacturers of Rolling Steel Doors, Grilles, and Automatic Closing Underwriters' Labeled Rolling Steel Doors and Fire Shutters; Insulated Metal Walls and Wall Panels; Steel Deck for Roofs, Partitions, and Permanent Concrete Floor Forms.



MAHON

The Outlook for 1954

An all time record was established in 1953 for the total volume of construction put in place in the United States during one year.

There are many favorable factors persisting for a potential of a continued high rate of activity in 1954. While most of those who have predicted the future look for a small decline of 2 to 4% in 1954, there are others who recall that each year recently while the industry has been establishing new records, the forecasts at the beginning of the year have been for a slight decline.

Some of the soundest thinking of the future of American business was recently expressed in the *New York Times Magazine* by Paul G. Hoffman, chairman of The Studebaker Corporation, and the first chairman of the Committee for Economic Development which during the war started the drive for business planning that helped to bring about the quick transition from a war-time to a peace-time economy on a far higher level than 1940.

Mr. Hoffman is of the opinion that a similar counteraction is needed now and can be made "quickly, with a great deal of boldness, some risk, and hard work, so there will not be a long period of doubt and uncertainty during which the fear psychology can take hold."

"The ironic fact is," he points out, "that we can talk ourselves into a recession but we cannot talk ourselves out of one."

But those who talk of an impending recession cannot look at the hard facts of America's economic position to substantiate their pessimistic outlook, he concludes, adding: "There is absolutely nothing wrong with our economy that a higher volume of hard-hitting advertising and sales promotion by business, and 100,000 good creative salesmen, cannot cure."

In outlining the strong credit side of the American economy, he cited the following 14 positive facts:

1. The average income of the American wage earner is at its highest peak.
2. Employment is at an all-time high of 63 millions.
3. Individuals have been saving 8% of their after-tax incomes since 1950, compared with 5% in 1940.
4. Banks are averaging 50% of their deposits in loans as compared with 25% in 1940.
5. Scheduled tax reductions are expected to provide individuals and corporations with \$3.3 billion in additional spending money.
6. Unemployment compensation and similar economic props and supports have been enormously increased.
7. U. S. productivity is roughly equal to the combined output of all the rest of the peoples of the world.
8. Industrial horizons are still expanding at a remarkable rate.
9. So-called basic industries are continuing to maintain strong foundations under the economy.

10. Governmental spending will likely reach \$70 billion in the year.

11. Local, state and federal governments will have to apply themselves to a great backlog of necessary public works in the years immediately ahead.

12. The speculative excesses that have preceded, and to many minds have largely precipitated, the depressions of the past, are absent.

13. American population increases, discounting war, are anticipated averaging 2.7 million new consumers annually.

14. "Guarantee" factors, such as mortgage stabilization and secured bank deposits, make recurrence of some past evils unlikely if not impossible. He concluded:

"What the American people think, say and do will largely determine not only their own destiny, but the course the whole world must take."

The Need for Apprentices

The need for training greater numbers of skilled workmen for the construction industry cannot be stressed too frequently.

The rate of construction activity has increased so tremendously in the past eight years that the apprentice and other training programs have not caught up with the industry's need for new, skilled men.

While many A.G.C. chapters and members have been doing outstanding work in apprentice and other training programs, the potentials for the future are such that more programs will be needed.

Responsible commissions studying the potentials for American growth and economic expansion estimate that by 1975 the total output of goods and services will double and the population will increase by one quarter.

In this growth and expansion the construction industry will have a tremendous job. It will have a very vital job because about one in every eight dollars spent in this country for goods and services is spent in construction.

Although construction equipment and labor-saving tools are constantly being improved, more efficient methods are being devised, and improved materials are being manufactured, the industry will be continuously needing increasing numbers of skilled workmen.

Experience has proven in many trades that the most efficient and capable craftsmen are those trained through apprenticeship, where they are under close and expert supervision and the programs are carefully prepared to give the men a complete knowledge of their trade.

The responsibility for the training of apprentices rests jointly on contractors and labor. It is a responsibility which for the good of the industry cannot be evaded.

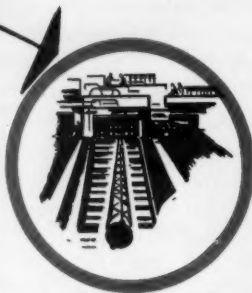
The contractor who does help to train apprentices is, however, making an investment helping to assure himself of future skilled workers, foremen, superintendents and other key men.

3

reasons

...To Choose Connors
Steel Reinforcing Bars

There's a reason for everything—and at least three good reasons to select Connors steel reinforcing bars on your next construction project. These and other advantages are among the reasons more people are turning to Connors for reinforcing steel—



Balanced Inventory—Connors' modern rolling mills are highly flexible which means we can maintain a balanced inventory at all times. Connors' fabricating shop in the same building with rolling mills means no time is lost shipping to fabrication shops.



Connors Bars Fit—Cut to proper lengths, bent to fit job requirements and metal tagged for quick identification, Connors bars fit your job.



Excellent Transportation—Connors' ready access to excellent truck and rail transportation facilities also means faster delivery to your job site.

CONNORS PRODUCTS:

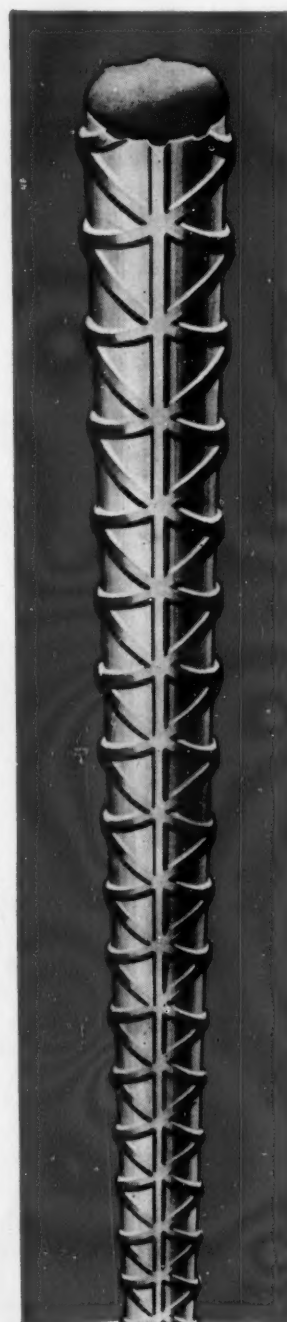
Concrete Reinforcing Bars • Hot Rolled Strip • Merchant Bars • Special Sections

CONNORS STEEL DIVISION

H. K. PORTER COMPANY, INC.

OF PITTSBURGH

P. O. BOX 2562 • BIRMINGHAM, ALA.



» AN ALL-TIME record volume of approximately \$46.5 billion in total construction was put in place in the United States in 1953, and favorable factors persist for a potential continued high rate of activity in 1954. The Associated General Contractors of America stated this month.

The 1953 total, consisting of about \$34.7 billion in new construction and at least \$11.8 billion in maintenance and repair of existing structures and facilities, represents a new high both in terms of dollars spent and the physical volume of facilities put in place.

In addition, about \$1 billion was invested in overseas construction by the federal government last year, and about the same amount is anticipated during 1954 in this activity—principally the building of bases for the armed forces.

The A.G.C., which represents more than 6,400 leading general contracting firms of all types throughout the United States and Alaska, who perform the majority of the nation's contract construction at home and abroad, based its year-end review and outlook on a study of authoritative private sources and official government statistics by the Commerce and Labor Departments.

13% Spent for Construction

The total, amounting to nearly 13 per cent of the estimated gross national product of some \$369 billion, indicates that more than one dollar

A.G.C. Cites Favorable Factors for 1954 Following Record Year

- One Out of Every 8 Dollars Spent for Construction
- Generates 15% of All Full-Time Equivalent Jobs
- Potential Remains for Sustained High Work Volume

out of every eight spent for end products and services was a construction dollar.*

Construction continued its postwar role as the nation's greatest single production activity, and as such was responsible for the employment, directly or indirectly, of nearly 8.4 million persons, or about 15 per cent of all full-time equivalent employees. Direct construction employment is estimated at about 4.6 million, and for every 5 workers employed at the site of construction, an average of 6 are employed in activities servicing it.

Gaps in Reporting

At the same time, the A.G.C. pointed out that major gaps exist in available data on construction which, when filled, will show an even higher volume when incorporated in the future. Principal deficiencies are in maintenance and repair operations, particularly for the conservation and development, military and naval, and other public works categories. Continual improvements are being made in

analyses by the federal reporting agencies.

1953 Record, by Major Types

1953 new construction exceeded the 1952 volume by 6 per cent, marking the eighth successive year that the industry has established new dollar volume records.

In the private categories, totaling \$23.4 billion, new peaks were registered in residential, commercial, religious, educational, and public utility groups.

Commercial construction, 56 per cent above 1952 as a result of the removal of controls and increased materials, reached \$1.8 billion as construction of stores, restaurants and garages almost doubled.

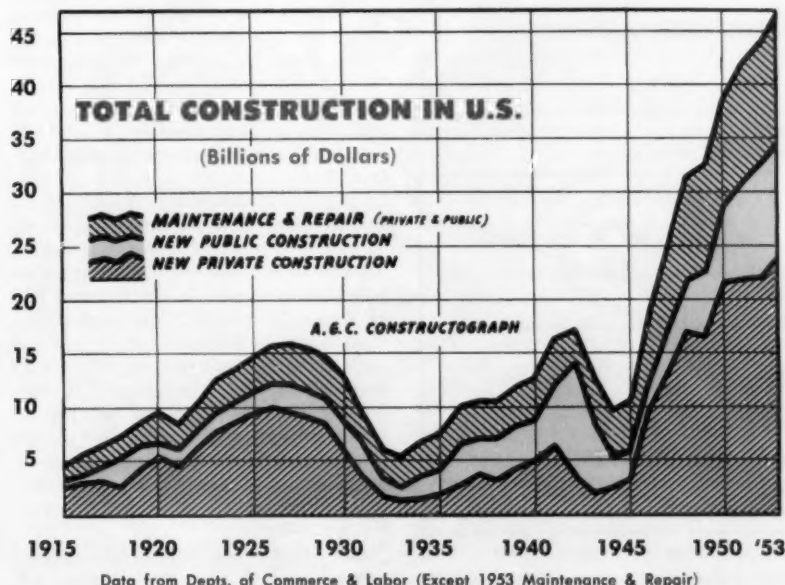
Privately-owned public utilities, registering their seventh successive record year in outlays, totaled \$4.4 billion, paced by new records in the electric light and power group and the petroleum pipeline category, which also saw their records surpassed for the seventh straight year. Railroads invested nearly half a billion dollars—more than at any time since the 'twenties—and construction of gas facilities jumped 20 percent to \$1.2 billion, the second highest volume in history for this group.

Residential construction, with private expenditures at a record level of \$11.7 billion, passed the 1,000,000 mark in the number of units started for the fifth year in succession, of which about 115,000 units were in apartment construction.

Slight drops were noted in private hospital and institutional, industrial, and farm construction. Industrial outlay, however, at \$2.3 billion reached its second highest peak.

New public construction, at \$11.3 billion, was at the highest total in history for the second year in succession, both exceeding wartime 1942.

While defense, conservation and development, and hospital and institutional construction continued to



taper off, the slack was taken up by mounting highway, school, and sewer and water improvements, with each of these categories registering all-time peaks.

Highest volume in the public cate-

gories was shown by highways, which, swollen by toll road as well as state and local construction, reached \$3.1 billion.

Public school construction totaled \$1.7 billion, topped only slightly by

atomic energy work, resulting in the building of about 50,000 classrooms as well as other facilities.

The outstanding trend in new public construction is the expansion of local and state public works—principally in terms of highways, schools and sewer and water facilities—to the point where they now account for almost 60 per cent of total public construction within the United States.

Outside the continental United States the Army, Navy and Air Force put in place an estimated \$900 million in facilities, and the federal government spent some \$100 million on other public works in the territories and on such items as foreign service buildings.

Biggest items in the estimated \$11.8 billion of maintenance and repairs in 1953 were, in order of importance: residential, nonresidential building, highways, and railroads.

1954 Outlook

While major governmental and private forecasts have estimated that construction will experience its second highest year in volume during 1954, with the total tapering off slightly by only 2 to 4 per cent, there are favorable factors present in the economy which suggest a potential sustained high rate, the association noted.

Major favorable factors for the immediate future cited by the A.G.C. include:

(1) The continuing high level of plant and equipment expenditures planned by business, projected into the first quarter of 1954 at near-peak levels of \$28 billion per year.

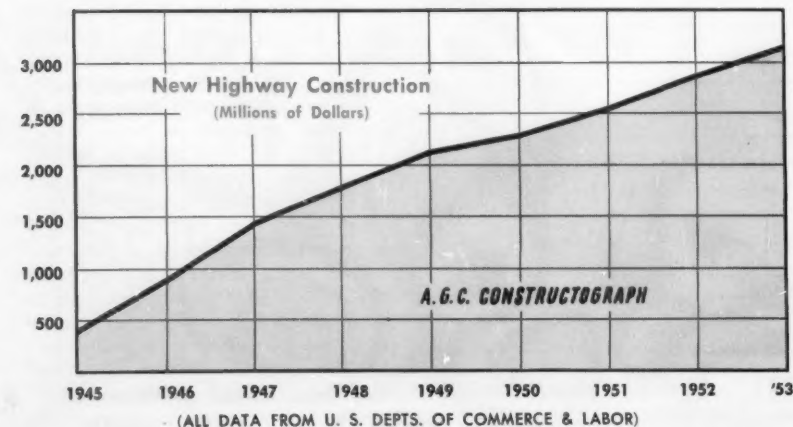
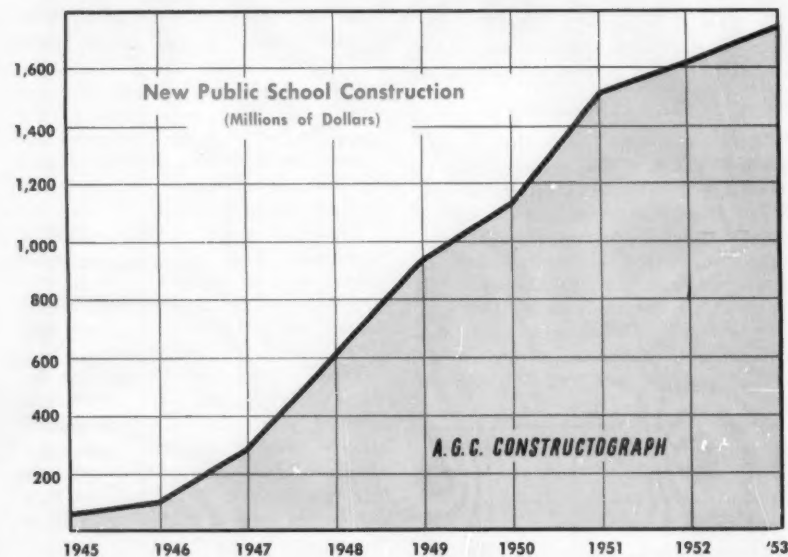
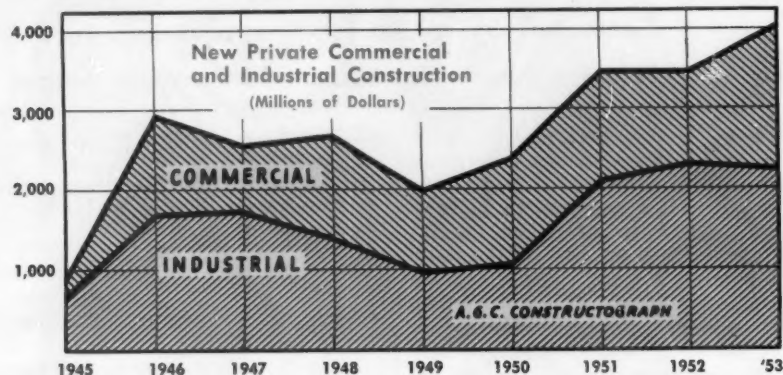
(2) Booming commercial construction, which was held back by World War II and subsequent controls on materials and construction, and which was considerably under-estimated during 1953.

(3) The increasing backlog of known planned construction projects.

(4) The trend of residential development in suburbs and outlying areas which carries with it the demand for all types of construction needed for community facilities.

(5) Demonstrations in the November off-year elections, the last general elections, and by state legislative actions of the public's willingness to authorize large bond issues to finance needed projects—especially highways, schools and sewer and water facilities.

(6) Good economic conditions in general, which, while tapering off



slightly from boom conditions, show continued high employment and production, and peak income.

Construction as Stabilizer

As long-range favorable factors, the association pointed to (1) the need to tremendously expand construction of schools, highways and community facilities merely to catch up with present needs; (2) the large population growth which is expected to continue at the rate of about 2.7 million annually for several years, underpinning the continual demand for more goods, services, housing, and all the other types of construction required; and (3) the ever-unfolding "new horizons" for industry, such as plastics, chemicals, electronics, and expanding applications of atomic energy and its by-products.

History demonstrates that the country has never had general peacetime prosperity for more than a brief period without a high construction rate. Similarly, the A.G.C. noted, recent studies by the Committee for Economic Development indicate that the industry is not subject to natural cycles of depression-precipitating declines as has been popularly believed, but actually fluctuates less than some other major segments of the economy.

Recent history shows that construction activity has acted as a major "stabilizer" in the economy when declines in other segments caused a drop in the country's total production and business. During the "readjustment" of 1946, when the gross national product dropped in the first peacetime year following World War II, construction, propelled by intense demand, continued to rise steeply.

Again, in the "recession" of 1949—a situation more nearly paralleling that of today—construction activity continued to rise while the gross national product dropped slightly, thereby constituting a bulwark of strength in total employment, income, and spending.

The construction industry can fulfill this important stabilizing function in the national economy so long as no ill-advised attempts are made to distort its naturally developed markets or methods of operation.

* A completely accurate relation of total construction output to gross national product is impractical because of the manner in which the product data are grouped, and the apparent difficulty of separating expenditures for maintenance and repairs from the costs of operations.

35th A.G.C. Convention to Explore Outlook

• Economic Symposium Slated; Labor Secretary Mitchell to Speak

» FACTORS influencing the future for the construction industry will be explored by outstanding speakers from government, business, finance, labor, and by the discussions of members at the 35th annual convention of The Associated General Contractors of America in Los Angeles March 1 to 4.

James P. Mitchell, who was appointed Secretary of Labor on October 9, has accepted the invitation to address the convention on March 2. By the time he speaks the President will have sent to Congress messages setting forth his labor policy in greater detail and his recommendations for legislation. This may enable Secretary Mitchell to discuss the Administration's labor policy with particular reference to construction.

At the opening session, there is the expectation that another of the Administration's principal spokesmen will address what promises to be the association's largest convention.

An innovation is being planned for the afternoon session March 3 at which the economic outlook will be discussed in a symposium of outstanding representatives of government, industry, finance and labor.

Speakers whose subjects will be of special interest to the building, highway, or heavy construction and railroad contractors divisions will speak at the division meetings the morning of March 2. They will be guests of honor at a luncheon preceding the economic outlook meeting.

As the program is being arranged, there will be ample time for each speaker to present his information, for discussion by members, and for consideration of association business. All sessions will start promptly.

Convention Sessions

The first convention general session will open at 1:30 p.m. Monday in the Pacific Ballroom of the Statler Hotel, where all general sessions will be held. After the call to order and invocation, there will be the welcome by Spencer Webb, president of the Southern California Chapter on behalf of the hosts, by the Mayor of Los Angeles, and Governor of California.

Then President C. P. Street will deliver the address of the president; Managing Director H. E. Foreman will present the annual report, and

Executive Director J. D. Marshall will report on association operations.

The Tuesday morning general session will be called to order at 8:30 a.m. so that the business can be transacted in time for entertainment planned for the afternoon.

On Wednesday the luncheon to be followed by the discussion on the economic outlook is scheduled to start at 12:30 p.m. At 9:00 a.m. will be meetings of the Building, Highway, and Heavy Construction and Railroad Contractors Divisions.

The closing general convention session will start at 9 a.m. Thursday, March 4. There will be committee reports at the Monday and Tuesday sessions. On Thursday there will be presentation of awards, presentation of the financial report and budget, reports from the divisions and Secretaries' and Managers' Council, adoption of resolutions, and the installation of new officers and directors.

The Governing and Advisory Boards will hold a pre-convention session at 9 a.m. March 1, and a post-convention meeting at 2:30 p.m. March 4.

Committee Meetings

Committee meetings preceding the convention will start on Friday, February 26, when the Labor Committee holds an all-day session and the Accident Prevention Committee and its

Convention Speaker



Hon. James P. Mitchell



Less time traveling . . . more time there!
FLY UNITED TO THE CONVENTION
 of the

**ASSOCIATED GENERAL
 CONTRACTORS of AMERICA
 •
 LOS ANGELES
 March 1-4**

Travel relaxed in big United Mainliners. Enjoy full-course mealtime service. Get there in a few, short hours, clean and fresh as when you started!

**FIRST CLASS AND AIR TOURIST
 SERVICE COAST-TO-COAST**

Combine business and pleasure. Special tours are available to some of the most popular resort areas. United offers round-trip discounts, a Half-fare family plan, and many other economies, including famous low cost Air Tourist service, featuring wide-aisle, 2-abreast seating comfort.

POST-CONVENTION HAWAII TOURS!
 7-23 days as low as \$268 from California.
 Get detailed folders free!

GET THE FACTS TODAY!
 Contact your local United Office
 or write
 M. M. MATHEWS, SUPT.
 OF CONVENTION SALES
 United Air Lines
 5959 S. Cicero Ave.
 Chicago 38, Ill.



GENERAL

liaison groups start two-day sessions.

On Saturday morning the Executive, Apprenticeship and Market Development Committees meet. In the afternoon the Governing Provisions, Legislative and Public Relations Committees hold sessions.

Meetings of two national joint cooperative committees also will be held February 27. The committee of A.G.C. and the American Public Works Association will hold an all-day meeting, and the committee of A.G.C. and National Association of State Aviation Officials will meet in the afternoon. An open meeting with state highway officials will be held as part of the Highway Contractors' Division session.

On Sunday, February 28, the A.G.C. Secretaries' and Managers' Council will hold a general meeting in the morning, and separate meetings of building, and highway and heavy chapter managers in the afternoon.

That morning the Finance and Contract Forms and Specifications Committees will meet, and the Executive Committee will hold another session in the afternoon.

Other convention events will include a Fathers' and Sons' Breakfast at 8 a.m. Monday, a Chapter Presidents' and Vice Presidents' Breakfast at 8 a.m. Wednesday, and Thursday if desirable, and a Membership Committee breakfast at 8 a.m. Tuesday.

Entertainment

The California host chapters have been arranging an outstanding social program. The Welcome Night will start at 7 p.m. Sunday, with a reception and entertainment. Tuesday afternoon will be free for the men's golf tournament, a visit to Santa Anita race track, or other activities. The annual banquet, with the brief business ceremonies to be followed by entertainment and dancing, will be at the Hollywood Paladium at 7 p.m. Thursday.

A headquarters for the ladies will be maintained at the Statler Hotel throughout the convention. A luncheon and style show will be held in the Coconut Grove, Ambassador Hotel, Wednesday noon.

The convention is being planned to give A.G.C. members the best possible opportunity to gain an insight into factors which will influence their businesses in the future, to review and help to mould an effective A.G.C. program, to exchange information and ideas, and to have an enjoyable time.

A.S.A. Honors A.G.C. Member

W. L. Sharpe of the W. L. Sharpe Contracting Company, A.G.C., Memphis, was awarded a certificate of service today by the American Standards Association in recognition of his work in the development of American standards, at a meeting held in New York's Shelton Hotel last month.



Mr. Sharpe

Mr. Sharpe is a member of the Standards Council, one of the A.S.A.'s two governing bodies. He represents the Associated General Contractors of America, a member body of the A.S.A. federation.

R. M. Gates, president of Air Preheater Co., New York City, and chairman of the executive committee of A.S.A., in presenting the certificate, said:

"The rules you have set up for the development of standards have made your procedures nationally and internationally known for their democratic character. You protect minorities—you thwart selfish interest. Your court, now in session for 35 years has established a reputation for integrity of the highest order, impartiality, and consideration for the good of the national community."


Although Mr. Sharpe was unable to attend the meeting, his citation was read by Mr. Gates to about 100 representatives of technical societies, trade associations and consumer groups holding membership on the Standards Council.

The council is the judicial body of A.S.A., which acts in the public interest by assuring that all standards' projects are national in scope and representative of all groups concerned with the proposed standard.

The A.S.A. is the national clearing-house for voluntary standards. In addition to its 110 member-bodies, the association has 2300 companies affiliated as sustaining members.

A true falling market does not seem to be at hand except as contractors cut their profits and discount hoped-for increases in labor output, W. D. Dean, manager of the Bureau of Contract Information, reports.

FOR MASS PRODUCTION IN MACADAM CONSTRUCTION!



THE JACKSON ELECTRIC VIBRATORY COMPACTOR

QUICKLY COMPACTS AND FILLS ROCK COURSES OF REQUIRED THICKNESS!

WORKING SPEEDS: 0 TO 60 FT. PER MIN.

REVERSE TRAVEL SPEED: 5 1/2 M.P.H.

MACADAM: the JACKSON—in one pass—will sufficiently compact 12 inches of rock to support smooth rollers. In four passes, the JACKSON keys and compacts to final density. It takes just two passes for the JACKSON to completely fill voids from top to bottom of the course, when enough dry fines are spread on top in one application.

IN GRAVEL SUB-BASES (Blanket Course) 7" thick, at optimum moisture, the JACKSON in one pass obtains densities exceeding 100% Standard Proctor. Vibratory frequency may be varied to suit conditions.

FLEXIBLE: The JACKSON is available in a standard width of 13', 3". Units may be subtracted on job to meet conditions requiring narrower widths. One 26" unit can be detached and fitted with handle, providing self-propelled compactor for restricted areas, pavement patching, paving drives, compaction of granular soils in trenches, etc.

WRITE FOR COMPLETE DETAILS OR SEE YOUR JACKSON DISTRIBUTOR

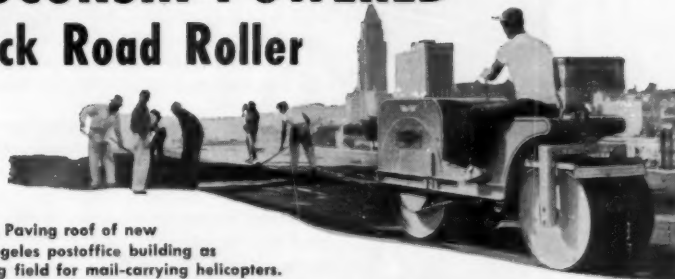
JACKSON VIBRATORS, INC., LUDINGTON, MICHIGAN

ROOF-TOP HELICOPTER AIRPORT

Paved with the help of

WISCONSIN-POWERED

Essick Road Roller



JOB: Paving roof of new Los Angeles postoffice building as landing field for mail-carrying helicopters.

FEDERAL SPECIFICATIONS: Called for compaction with 5-ton roller.

PROBLEM: How to hoist roller to roof of postoffice . . . a risk declined by paving contractors.

SOLUTION: Geisler Construction Co., Los Angeles, proposed use of 3-ton Essick Road Roller, powered by 2-cylinder Wisconsin Heavy-Duty Air-Cooled Engine . . . providing compaction comparable to competitive 5-ton rollers. Authority to do this readily granted and job completed, with satisfactory results.

Just another interesting typical example of how Wisconsin Air-Cooled Engines fit both the JOB and the MACHINE . . . good reasons why it pays to specify "Wisconsin Engines" for your equipment.



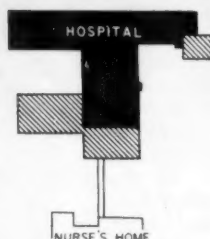
WISCONSIN MOTOR CORPORATION

World's Largest Builders of Heavy-Duty Air-Cooled Engines

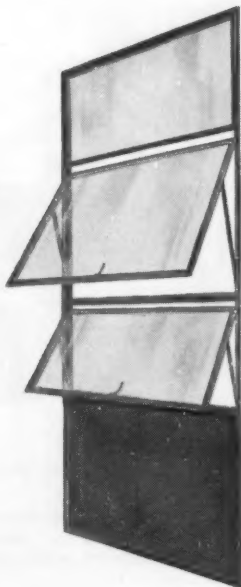
MILWAUKEE 46, WISCONSIN



Beckley Central Hospital, Beckley, W. Va.
Memorial Hospital Association of Kentucky, Inc.
Isadore Rosenfield, architect.
J. A. Jones Construction Co., general contractor.



TRUSCON'S NEW VISION-VENT WALL offers Mass-production Economy of Standard Steel Windows



This exciting new Truscon development opens entirely new concepts of window walls in steel and glass. Vision-Vent is a new building unit incorporating all mass-production and installation economies of standard steel windows. It is designed to cover entire wall surfaces.

Vision-Vent was developed in cooperation with architects, contractors and building owners. Initial application is a chain of ten hospitals built for the Memorial Hospital Association of Kentucky. Anticipated results of this new Truscon construction method are (1) simplicity of design, (2) weather resistance, (3) low first cost, (4) low maintenance cost.

Each Vision-Vent unit is complete—with fixed lights, awning type ventilators, and insulated steel panels. All elements may be varied to meet functional and appearance requirements. Insulated panels—in colored porcelain enamel or in stainless steel—have a "U" factor of .197, equal to that of an ordinary masonry spandrel wall. They retain interior heat. And, they provide for efficient air-conditioning. Minimum wall thickness provides extra square feet of floor space. Erection goes forward in any weather.

Vision-Vent construction is recommended for use in the design of all types of single or multi-story buildings. Truscon window engineers will be glad to study your requirements, and develop design details and costs. More details in Sweet's, or write:



TRUSCON STEEL DIVISION REPUBLIC STEEL

1100 ALBERT STREET • YOUNGSTOWN 1, OHIO
Export Department: Chrysler Bldg., New York 17, N. Y.

TRUSCON® a name you can build on

U. S. Supreme Court Issues Some Important Decisions

The Garner Case.—On December 14 the U. S. Supreme Court unanimously decided that the Taft-Hartley Act does not permit a state court to enjoin peaceful picketing affecting interstate commerce, even though such picketing also violates a state law. This far-reaching decision, which is being studied carefully by attorneys and government officials, comes at a time when the delicate subject of states' rights and federal legislation is under consideration by Congress in the form of proposed bills to amend the Taft-Hartley Act.

In essence, the Supreme Court held that to permit states to regulate peaceful picketing is to invade the exclusive jurisdiction of the National Labor Relations Board which is charged with the administration of the Taft-Hartley Act. The picketing in this case was allegedly for the purpose of forcing the employer to coerce his employees into joining a union. The teamsters represented four of the company's 22 employees and wanted to represent all of them. The Court observed that picketing for such a purpose would be unfair labor practice both under the Taft-Hartley Act and the Pennsylvania state law.

One of the significant things about this decision is that the picketing involved here was for organizational purposes. Until the present time, at least, the NLRB has never regarded such picketing as an unfair labor practice under the Taft-Hartley Act.

Because of its importance the analysis of the Supreme Court as expressed in the opinion of Justice Jackson is quoted here.

Purpose of Picketing Illegal

"The courts below found that respondents' purpose in picketing was to coerce petitioners into compelling or influencing their employees to join the union.

"The equity court held that respondents' conduct violated the Pennsylvania Labor Relations Act. The Supreme Court of the Commonwealth held, quite correctly, we think, that petitioners' grievance fell within the jurisdiction of the National Labor Relations Board to prevent unfair labor practices. It therefore inferred that state remedies were precluded. . . .

"The National Labor-Management Relations Act, as we have before

Recent Labor Cases Affecting Construction

By William E. Dunn

Manager, Labor Relations, The Associated General Contractors of America

pointed out leaves much to the states, though Congress has refrained from telling us how much. We must spell out from conflicting indications of Congressional will the area in which state action is still permissible.

"This is not an instance of injurious conduct which the National Labor Relations Board is without express power to prevent and which therefore either is 'governable by the state or it is entirely ungoverned.' In such cases we have declined to find an implied exclusion of state powers. *International Union v. Wisconsin Board*, 336 U. S. 245, 254."

State Police Power Not Involved

"Nor is this a case of mass picketing, threatening of employees, obstructing streets and highways, or picketing homes. We have held that the state still may exercise 'its historic powers over such traditionally local matters as public safety and order and the use of streets and highways.' *Allen-Bradley Local v. Wisconsin Board*, 315 U. S. 740, 749. Nothing suggests that the activity enjoined threatened a probable breach of the state's peace or would call for extraordinary police measures by state or city authority. Nor is there any suggestion that petitioners' plea of federal jurisdiction and preemption was frivolous and dilatory, or that the federal board would decline to exercise its powers once its jurisdiction was invoked."

NLRB Granted Exclusive Jurisdiction

"Congress has taken in hand this particular type of controversy where it affects interstate commerce. In language almost identical to parts of the Pennsylvania statute, it has forbidden labor unions to exert certain types of coercion on employees through the medium of the employers. It is not necessary or appropriate for us to surmise how the National Labor Relations Board might have decided this controversy had petitioners presented it to that body. The power and duty of primary decision lies with the Board, not with us. But it is clear that the Board was vested with power to entertain petitioners' grievance, to issue its own complaint against re-

spondents and, pending final hearing, to seek from the United States District Court an injunction to prevent irreparable injury to petitioners while their case was being considered. The question then is whether the State, through its courts, may adjudicate the same controversy and extend its own form of relief."

Court Examines Congressional Intent

"Congress did not merely lay down a substantive rule of law to be enforced by any tribunal competent to apply law generally to the parties. It went on to confide primary interpretation and application of its rules to a specific and specially constituted tribunal and prescribed a particular procedure for investigation, complaint and notice, and hearing and decision, including judicial relief pending a final administrative order. Congress evidently considered that centralized administration of specially designed procedures was necessary to obtain uniform application of its substantive rules and to avoid these diversities and conflicts likely to result from a variety of local procedures and attitudes toward labor controversies. Indeed, Pennsylvania passed a statute the same year as its labor relations act reciting abuses of the injunction in labor litigations attributable more to procedure and usage than to substantive rules. A multiplicity of tribunals and a diversity of procedures are quite as apt to produce incompatible or conflicting adjudications as are different rules of substantive law. The same reasoning which prohibits federal courts from intervening in such cases, except by way of review or on application of the federal Board, precludes state courts from doing so."

[*Joseph Garner and A. Joseph Garner, trading as Central Storage and Transfer Co. v. Teamsters, Chauffeurs and Helpers, Local No. 776 (A. F. L.)* (24 Labor Cases 68,020, U.S. Supreme Court Docket No. 56 October Term 1953).]

This case in no way involves section 14 (b) of the Taft-Hartley Act which grants to the states with "right to work" laws exclusive jurisdiction over union security agreements and prac-



Move a Mountain



or Push Some Pebbles

Whatever the job, there's a SHUNK blade designed to do it efficiently and economically. For almost a century SHUNK has been manufacturing a full line of fine cutting edges rolled from top-quality steel to fill any maintenance or construction need . . . whether it's gravel, dirt, shale, snow or rocks.

Original equipment manufacturers specify them because of their durability . . . contractors use them because of their dependability . . . distributors like to sell them because they're priced right and deliveries are prompt.

Write us for recommendations on the proper SHUNK blade for your job.

3,000 DIFFERENT SPECIFICATIONS



SCARIFIER BLADES



GRADER BLADES



SNOW PLOW BLADES
BULLDOZER BLADES



Shunk MANUFACTURING COMPANY

In Our 99th Year

BEST BLADES MADE

BUCYRUS, OHIO

LABOR RELATIONS

tices affecting both local and interstate commerce.

Other Supreme Court Decisions:

- Held that NLRB properly asserted jurisdiction over a local Chevrolet dealer who because of his relationship with General Motors was in interstate commerce and therefore subject to Taft-Hartley Act. (*Howell Chevrolet v. NLRB*, 24 Labor Cases 68,019, U. S. Supreme Court docket No. 34).

- Held that workers on strike can be fired in this case for knocking their employers' products as through the distribution of hand bills. (*NLRB v. Local Union No. 1229 IBEW*, 24 Labor Cases 68,000).

- Granted Review of Federal District Court anti-trust decision which held there was insufficient interstate commerce involved to support indictments and civil complaints alleging that agreements between lathing contractors and lathers unions amounted to restraint of trade. The government contends that the Employing Lathers Association of Chicago and Vicinity and Local 74 of the Lathers Union had agreed (1) to reduce the number of lathing contractors by excluding any contracting employer who was not a member of the union for five years and "by employing arbitrary racial and family-relationship standards to restrict the local's membership," (2) to eliminate competition by assigning designated lathing contractors to particular plastering contractors, and (3) to eliminate competition between plasterers and lathers by reducing the number of plastering contractors permitted to employ members of the local. [*United States v. Employing Lathers' Association of Chicago and U. S. v. Employing Plasterers Association of Chicago* (24 Labor Cases 67,758).]

- Denied Review of Court of Appeals case which upheld NLRB finding that employees in an association-wide bargaining unit were not temporarily laid off or locked out as a result of a strike against one of the association members, but were illegally and permanently discharged. The Supreme Court did not express approval or disapproval of the merits of the case. (Report on NLRB lock-out decision affecting construction appeared in July 1953 *CONSTRUCTOR*, P. 178) (*Morand Brothers Beverage Co. v. NLRB*, 23 Labor Cases 67,624).

a
nose
for
business



SPERRY GYROSCOPE CO.

This company whose name is synonymous with leadership in the field of aviation research and development throughout the world . . . is operating two Aero COMMANDERS in their aviation department.



A E R O

DESIGN

Commander

AERO DESIGN AND ENGINEERING COMPANY
TULAKES AIRPORT

Complete information on request.

P. O. BOX 118 • BETHANY, OKLAHOMA

Help for Contractors in the bidding... and on the job

IN the past 15 to 20 years, the construction industry has kept earth-moving costs down in spite of rising labor and material costs. To do it, construction men have pioneered new earth-moving techniques that have put constantly increasing demands on machinery. That's why in today's tough competitive era a man needs modern equipment that gives him a versatile outfit, easy to move from job to job... equipment that enables him to bid successfully and work at a profit.

In an effort to cooperate fully to meet these demands, Allis-Chalmers has for years geared its progress to that of the earthmover himself... now offers him completely new designs like the HD-15... a machine that takes advantage of even the most recent developments in tractor application.

The design of the HD-15 also makes full use of new metals, new oils and greases, and the latest manufacturing processes. Existing models were not allowed to restrict Allis-Chalmers engineers... so they worked right from the ground up, matching part to part, assembly to assembly, and the entire tractor to its Allied equipment. As a result, the HD-15 offers new standards in ease of operation and service, as well as long-life performance. With outstanding balance characteristics, it handles both mounted and drawn equipment well, provides maximum flexibility for the wide variety of jobs so typical of today's construction work.

And as earth-moving competition gets keener, these design advantages become more and more important to you. We invite you to talk with your nearby Allis-Chalmers dealer to compare values... see for yourself how the HD-15 can be a big factor in helping you to win bids, stay on schedule and make a profit.

ALLIS-CHALMERS
TRACTOR DIVISION • MILWAUKEE 1, U. S. A.

HD-15

109 drawbar hp.
27,850 lb.

Six speeds forward to 5.8 mph.
Three reverse speeds to 4.5 mph.



Constant progress in earth-moving methods has been matched by such design advances as this HD-15 and

its engine-mounted dozer . . . which were engineered and tested as a unit, right from the start.



This HD-15 Tractor Shovel is a tool which introduced a new era of tractor usefulness . . . let contractors move from job to job easily and do traditional jobs in a better, faster way.



The improvements and refinements of really modern design take on new significance as competition gets keener. Extra yardage handled . . . or lubrication time saved means working more efficiently, more profitably.

Pattern of Administration's Plans to Begin Unfolding This Month

- Major Messages Due; Commissions Report Later
- Many Subjects in Congress Affect Construction

» THE 1954 session of Congress—the one which will be freshest in the voters' minds when they elect the 84th Congress—was to convene Jan. 6 with an agenda bulging with pressing matters, many of which directly concern construction.

The President was scheduled to reveal his "progressive, dynamic" program in more detail in a series of messages, leading off with the State of the Union message he was slated to deliver in person Jan. 7.

Immediately, the Senate was faced with one of its thorniest organizational problems—how the Republicans could keep a "majority" on committees when Sen. Thomas A. Burke (D-Ohio) takes the seat of the late Sen. Robert A. Taft (R-Ohio) and gives the Democrats an actual 48-47 lead in members. It was expected that the Republicans would keep actual control of the Senate. Their thin numerical lead in the House enables them to keep control there.

This second session of the 83rd Congress will be necessarily short, because members will want to be home well before election day. And it will be crowded because the first session postponed final decisions on many matters pending further study. A special session may be needed following the elections.

Leadership Tested

The President's leadership will be tested during the session while final decisions are sought on problems which were deferred from 1953, and as a more detailed program for 1954 and the future is determined by Presidential recommendations and Congressional action.

He started laying the groundwork for the legislative session meticulously in mid-December when Republican leaders in Congress and committee chairmen were called to the White House for an exchange of views on his prospective program.

Among subjects discussed were budget, taxation, defense, foreign aid, labor, inflation, depression, public works, housing, atomic energy, health,

agriculture, social security, St. Lawrence Seaway, Hawaiian statehood, highways, flood control, reclamation, Congressional probes, criminal prosecution, government reorganization, veterans' affairs, and others, according to the authoritative *Congressional Quarterly*.

Influential Democrats also will be called to the White House, because no matter how united the Republicans may be, little can be accomplished without some Democratic support.

Major Messages Slated

In January the President will send three regularly-scheduled messages to Congress which will shed light on the Administration's program.

First is the State of the Union Message in which he will review accomplishments of the Administration to date and make recommendations for the future. This will be a document of fundamental importance.

Second is the budget, to be transmitted to Congress probably during the week of Jan. 18, in which he will make recommendations for federal expenditures for the year starting July 1, 1954. This will outline federal spending policies.

Third is the economic message, which will report on the economic situation, and may contain recommendations for action to halt inflation and to offset bad effects of any recession. This message may discuss plans for use of public works in a recession.

No time has been set, but the President has indicated he may send to Congress this month the Administration's views on possible amendments to the Taft-Hartley Act.

Other Major Subjects

Other major subjects to come before Congress will include such as:

Taxation. The increased personal income and business excess-profits taxes and the Renegotiation Act expired December 31, 1953. On April 1 corporation capital-gains, corporation income, and excise tax rates are scheduled to decrease. Losses for a full fiscal year of all these expirations

or declines would be about \$8 billion. The Administration is committed to expiration of the excess profits tax and reduction of personal income tax Jan. 1, but may seek to postpone decreases in the capital gains, corporation income and excise tax rates. The Treasury Department and Congressional joint tax committee have been making studies which may lead to recommendations for correcting inequities in tax laws. Bills are pending to continue renegotiation.

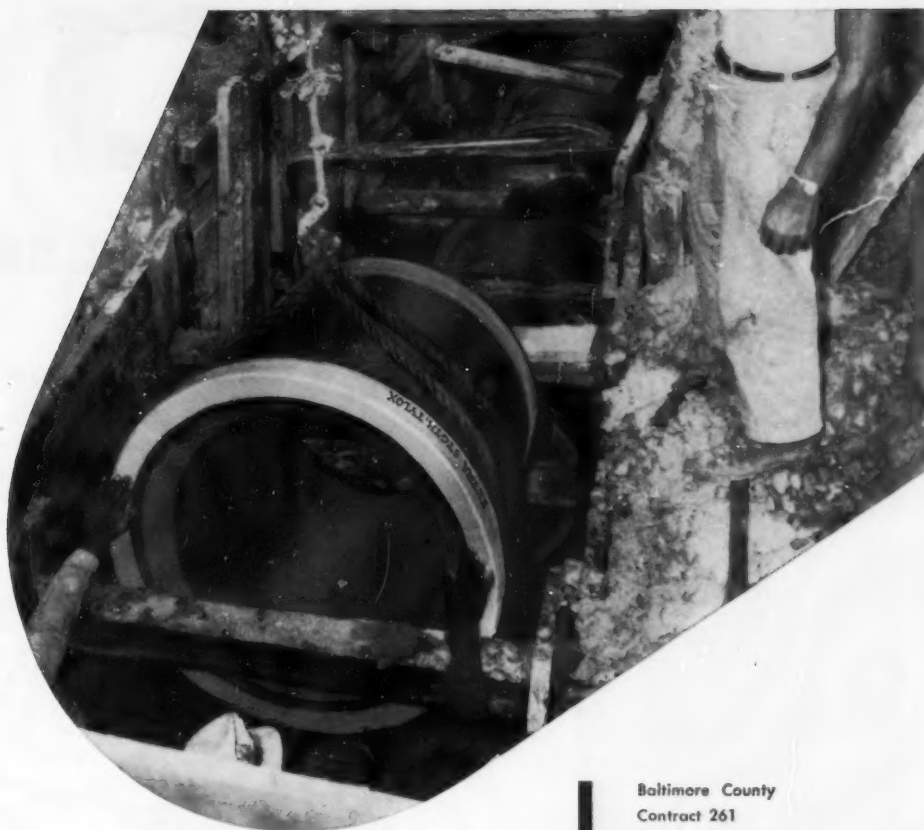
Social security. The social security tax was scheduled to increase to 2% on Jan. 1, but the Administration may ask that the increase be postponed when it makes recommendations for bringing additional workers under the system and increase the benefits.

Government in business. The broad issues of power policy, details of federal housing policy, and other government-in-business issues will be debated.

Highways. Congress must pass at this session legislation to authorize federal-aid highway appropriations for the fiscal years starting July 1, 1955 and 1956, or for a longer period if it chooses. A House Public Works Subcommittee held extensive public hearings last session leading to the legislation in which many diverse views were presented. The American Association of State Highway Officials has recommended a "very minimum" of \$900 million annually in federal aid, compared to the \$575 million currently in effect.

Judicial review. Of particular interest to all industries contracting with the federal government is legislation passed by the Senate last session and now pending before the House Judiciary Committee to assure the right of judicial review of disputes arising from federal contracts. The legislation is contained in S. 24, passed by the Senate, which along with H.R. 1839, is pending in the House. The Associated General Contractors of America has taken the lead in pointing to the need for such legislation.

Subcontractor legislation. A.G.C. members have continued to oppose enactment of legislation which would establish a complex and unworkable system for the bidding and award of mechanical specialty subcontracts on federal public works projects. The legislation is contained in S. 848 and H.R. 1825, reported by the respective Judiciary Committees but not voted on.



**Your Professional Reputation is SAFE . . .
When You Specify . . .
UNIVERSAL VITRIFIED or
UNITED STATES CONCRETE SEWER PIPE**

With these products you get long term, over-the-years dependability assured by highest quality materials, modern production machinery and methods — and long experienced "know-how".

Prompt delivery is achieved by eight large plants strategically located.

Fair and equitable pricing is the result of these factors.

Baltimore County
Contract 261
Wise Avenue at
Bear Creek Bridge
30" Extra Strength
Vitrified Sewer Pipe
with Tylox Flexible
Rubber Coupling

ENGINEERS

Whitman Requardt and
Associates
Baltimore, Maryland

CONTRACTOR

Leo Butler Company
College Park, Maryland

PRODUCTS

Sewer Pipe (Vitrified)	Slipseal Sewer Joint	Flue Lining
Sewer Pipe (Concrete)	Segment Sewer Block	Stove Pipe
Vitrified Liner Plates	Meter Boxes	Chimney Tops
Tylox Flexible Rubber	Ship Lap Wall Coping	Chimney Pots
Coupled Vitrified Pipe	Septic Tanks	Fire Brick
Aerodrane Filter Block	Drain Tile	Fire Clay
	Vitrified Clay Plate Lined Concrete	Pipe

SALES OFFICES:

BALTIMORE, MD.—HALETHORPE BRANCH—Box 7769.

PHILADELPHIA, PA.—P. O. Box 30, BRISTOL, PA.

Tel. Enterprise 6015

CINCINNATI, OHIO—P. O. NEWTOWN, OHIO—Box 215.

Tel. Elkridge 790

Tel. Bristol 5571

Tel. Locust 7846

FACTORIES:

BALTIMORE, MD.,
PALMYRA, OHIO (2),

CINCINNATI, OHIO,
PHILADELPHIA, PA.,

NEW PHILADELPHIA, OHIO,
UHRICHSVILLE, OHIO (2)

**UNIVERSAL SEWER PIPE CORPORATION
UNITED STATES CONCRETE PIPE CO.**

• GENERAL OFFICES • 1500 Union Commerce Building • CLEVELAND 14, OHIO

**USE THE
NEW**

ZOU

FIVE PORCELAIN ENAMELED

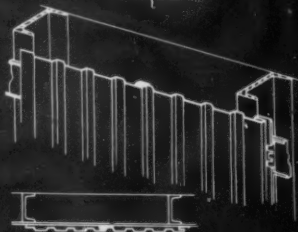
1001 uses for this new aluminum facing

With 5 different porcelain enameled colors, and Alumilite and Alumilite Gray, it's easy to adapt Zourite to everything from identification background to a multistoried building. The beautiful Zourite colors are: Academy Blue, Harvest Brown, Sunset Red, Spring Green, and Velvet Black.

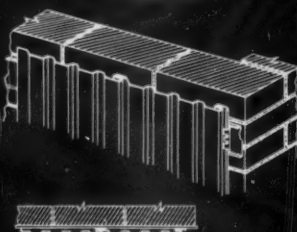
Kawneer is as near as your phone. Just phone, wire or write your nearest Kawneer office listed on the opposite page for further information on Zourite. Use Zourite for: STORE FRONTS • BUILDING FACINGS • PYLONS • PARTITIONS • SOFFITS • IDENTIFICATION BACKGROUNDS • SPANDRELS • TRIM • BULKHEADS • PILASTERS • COLUMNS.



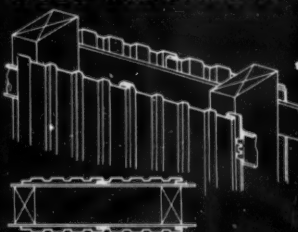
STEEL



BRICK



WOOD PARTITIONS



Application of Zourite to steel, masonry or wood construction is quick and simple with the patented Anchor Clip and Zourite Furring Channel spaced 24" O.C. It's lightweight and is easily cut on the job or shop fabricated. Zourite is made of .050

thick aluminum and is available in 4 widths from 2 1/8" to 8 1/2" and there are 9 trim members to meet all corner and edge conditions. Phone, wire or write now for additional technical information.

RITE

COLORS & ALUMILITE—ALUMILITE GRAY



SALES OFFICES

ATLANTA, GEORGIA
714 Lee Street, S.W.

BERKELEY 10, CALIFORNIA
930 Dwight Way

BROOKLYN 6, NEW YORK
345 Ten Eyck Street

CAMBRIDGE 42, MASS.
320 Binney Street

CINCINNATI, OHIO
805 Second Nat'l Bank Bldg.
832 Main Street

CHICAGO 2, ILLINOIS
1304-S Chicago Real Estate
Board Bldg.
105 West Madison Street

CLEVELAND 14, OHIO
718-719 The Arcade

DALLAS 2, TEXAS
131-35 Payne Street

GRAND RAPIDS 4, MICH.
1250 Alpine Avenue, N.W.

KANSAS CITY, MO.
Room 617
20 W. 9th Street Building

LOS ANGELES 58, CALIF.
4801 Pacific Boulevard

MINNEAPOLIS, MINN.
15 East 38th Street

NEW YORK 36, N. Y.
Room 2346
11 West 42nd Street

PHILADELPHIA, PA.
44 S. Lansdowne
P.O. Box 43

ST. LOUIS, MO.
34 N. Brentwood Blvd.

CANADA LTD.
Don Mills Rd.
Toronto 6, Ont., Canada



Minnesota Road Upkeep By Contract: A Long History

• Began When Highway Dept. Was Set Up in 1921

By C. L. Motl

Chief Maintenance Engineer, Minnesota Department of Highways

» IN 1952, the Maintenance Division of the Minnesota Department of Highways let contracts for maintenance work totaling slightly over \$4.5 million. The work, which was of several different types, was embodied in 50 firm contracts and numerous rental contracts.

This procedure of awarding contracts for maintenance has had a long history in Minnesota. In fact, we have always, since the organization of the department in 1921, called for bids on some of our operations. We learned early that this is one way to stretch the highway dollar and expedite accomplishments.

The department is responsible for maintaining 11,853 miles of state trunk roads. The funds expended through contracts in calendar 1952 represented about 28% of the total spent for maintenance work. Contractors tackled several operations, including application of bituminous seal treatments, production and spreading of aggregate and subgrade correction and laying of base, roadside improvements, and cleaning and sealing joints and cracks in concrete pavements.

These are operations which we find easily adaptable to the contract method and which justify the labor of preparing invitations and obtaining bids. The competition among contractors in Minnesota is such that we are obtaining a sufficient number of bids, and these bids are frequently under engineers' estimates.

Bituminous surface repairs and seal coat projects were completed by contractors in 1952 in the amount of \$534,843.25. Bituminous surfacings running over $\frac{3}{4}$ in. in depth were let for \$344,783.76.

In both types of work, the state furnished the materials and the contractor handled crushing, screening, loading, hauling and application of the aggregate and bituminous materials. Bidding was based on materials quantities specified in the invitation.

For crushing, screening, hauling and spreading aggregate on traffic-bound roads, contractors were paid \$336,414.79 last year. The unit bases used were tons of aggregates processed and spread and ton-miles of aggregates hauled.

Six contracts were let in 1952 for cleaning and sealing cracks and joints in 615 miles of concrete pavement. The department received low bids totaling \$1,085,124.17 for this work which required nearly 4.3 million pounds of rubber seal. The unit basis on which contractors bid was pound of seal in place, including cracks and joints cleaned to rigid specifications. This is an operation which Minnesota has pioneered in developing and one regularly let to contract now.

It has been our policy to frequently rent equipment on a bid basis, usually from contractors, to avoid building up inventories of heavy duty equipment not needed for usual operations. The maintenance districts obtained the use of fully operated equipment to carry on much of their special work in 1952 for approximately \$1.5 million.

Two types of equipment contracts were used. In one, the low bidder was required to furnish the specified equipment at a specified place and time. In the second type, work details were not specified but the district kept the bids on file until such time as the equipment was needed. Then, starting with the low bid, the engineer



Mr. Motl

Mr. Motl has been engaged in highway work for 40 years, first as assistant bridge engineer for the state, then as county highway engineer, and later as division engineer, assistant maintenance engineer and finally, chief maintenance engineer for the state, assuming the latter position in 1939.

Mr. Motl's support of the contract method of highway maintenance dates back to 1916, when, charged with grading and gravel surfacing a county's road system, he felt that strong public sentiment for better highways justified unusual methods and he set up a program to do the task by contract. This program was successful even though road contractors, as such, were virtually non-existent then.

processed the list until he found a contractor whose equipment was available at that time and near the project to be undertaken.

In addition to producing aggregate for maintenance jobs on which they held contracts, contractors produced stockpiles of aggregates for state forces to use. Low bids for this work, based on tons produced and ton-miles hauled, totaled \$408,364.39 last year. This is an item which was frequently let in connection with other types of

Left, for centerline joints a special plow tooth is mounted on a standard tractor. A power sweeper runs behind to pick up removed seal and debris. This procedure is used quite generally on major resealing projects. Right, joints are blown out with an air hose by the man in the foreground who is followed by truck with pouring kettles and men who apply rubber asphalt seal from pouring pot.



maintenance contracts in order to secure more favorable prices.

Contractors completed roadside improvements, including placing of random riprap, for \$36,161.30 in 1952. Subgrade correction and laying of gravel base by contract required \$172,797.26.

I have been asked from time to time by other state highway maintenance engineers why we call upon contractors to do maintenance work for us. There is no one answer to that question. One reason is that it is frequently more economical and usually more expeditious. For the 12 months ending June 30, 1953, we awarded \$2.2 million in maintenance contracts.

Bridge Repair by Contract

In addition to letting highway maintenance work to contract, the Minnesota Highway Department awards a high percentage of its bridge maintenance to contractors. Of the \$530,000 spent on maintenance of bridges last year, \$220,000 was expended through contracts. Seven contracts were let, according to M. O. Giertsen, bridge engineer, of which five were for pier protection and to prevent stream scour, one for repainting, one for resurfacing of bridge floor and one for several items such as new floor, sidewalk and lift span cables.

Mr. Giertsen reports that from four to ten bids were received at each advertisement and low bid frequently was below engineers' estimate. The department has found satisfaction in its bridge maintenance by contract system and intends to continue utilizing contractors for such work.

Our engineers' estimates for that \$2.2 million worth of work exceeded \$2.5 million. We got it done for less because we went into the market place and tapped the competitive system.

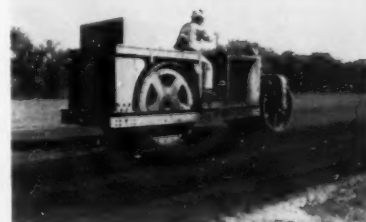
Competition is keen among contractors today. For the 50 contracts involved in the period just mentioned, we received 262 bids—as many as 13 bids on some projects. Some were too high, of course; others appeared to be dangerously low. However, they represent a better-than-ever opportunity for the department to obtain realistic prices for maintenance work, and we feel we should seek out those opportunities that will get improved and faster results.

Certain types of major maintenance operations can be better performed by contract during the peak operation times of the year, because of the limited public personnel needed to supervise, inspect and control the work. A maintenance organization is usually confronted with a working schedule that varies considerably in volume during the year and also with the problem of what to do with its organization, equipment and personnel during those times when work volume is low. The maintenance division carried a low of 1,614 employees in February in 1952 and a high of 2,224 in April in 1952, including hourly employees put on for the heavy summer months. Letting work to contract has ironed out the seasonal fluctuations for us; 80% of our men are with us 12 months of the year.

A helpful solution to our personnel problem seems to be to plan for contract work certain portions of the maintenance program which can be identified under units of operation, and which can be reasonably and practically let to contract.

Another reason for our favoring the

contract method in many instances is that it improves our programming. Before we can award a contract we must make certain decisions about that job. We need to know how much it is going to require in materials, in manpower and in time. We need to determine the quality of the work we can afford. Those decisions we are



Types of heavy equipment provided by contractors for special maintenance. Top, a self-propelled asphalt paver. Center photo shows a tandem roller. Bottom, a patrol grader.

Left, pouring seal into newly-cleaned irregular transverse cracks. Right, extruded material is removed from the highway by machine.



CONTRACT METHOD



Utilizing heavy construction equipment for maintenance requirements—top, a high production hot asphalt plant. Immediately above, production of mineral aggregate by contract. Photo at right shows rehabilitation of old asphalt pavement under the heater-planer method by contract. Heater-planer unit followed by blading unit and roller.



forced to make as we draw up the specifications. Our estimating is closer than it would be otherwise, and our budgeting benefits as a result.

More important, perhaps, when the

bids are in, we know how much we can accomplish and how much it is going to cost. We know the cost before the job begins and not afterwards, as often happens in force account, sometimes to our dismay.

These facets of our philosophy about contract work on maintenance were not lightly embraced. They have impressed themselves upon us through years of experience, in which it has been possible to learn some concrete things about this matter of day labor and the contract method. One of those things is that, as a general rule, the state will benefit when it calls upon general contractors to take on a share of its highway maintenance program. When contractors pit their best experience and practical know-how against each other for a job, the state is bound to benefit.

The annual expenditures, on a nationwide basis, made for street and highway maintenance have already crossed the billion-dollar mark; and if it is true that we ordinarily recognize private enterprise, with its competitive initiative and ingenuity, as having certain advantages in our American way of life, then these advantages should not be overlooked in the vast programs of expenditures being made for highway maintenance.



STOP JOINT SEAL FAILURES!

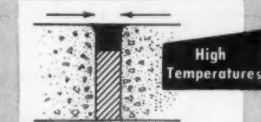
Use **HOT-POURED**
Para Plastic

- Para-Plastic keeps joints sealed under severest conditions of traffic, temperature
- May be pumped directly into joint from melting kettle
- Para-Plastic "JF" compound impervious to Jet Fuel or petroleum solvents used in aircraft

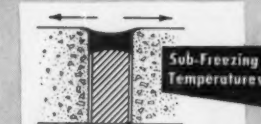
Use Hot Poured Para-Plastic . . . field-proved to be the only effective method of sealing joints with a high degree of permanence. There's no substitute for Para-Plastic . . . nothing equals its sealing performance. It's stable, constant in volume, won't break down and maintains bond under virtually every condition. Para-Plastic can now be pumped directly into the joint from the melting kettle—a fast, simple method of application. Write for details on new method and information on Para-Plastic and Para-Plastic JF.

Hot Poured Para-Plastic was used to seal joints on the Minnesota highway maintenance job described in this issue.

The only FIELD PROVED METHOD OF SEALING JOINTS



Temperatures to 180° F do not affect
Para-Plastic sealing efficiency.



Para-Plastic remains plastic—
maintains bond at 0° F.

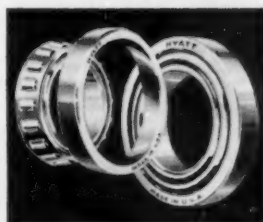


SERVICED PRODUCTS CORPORATION
6051 WEST 65th STREET • CHICAGO 38, ILLINOIS

This is the third in a series of articles describing the benefits of handling highway maintenance work by contract. Reprints are available.



**The shape
that's
solving a big
industrial
problem...**



For tractors and implements...

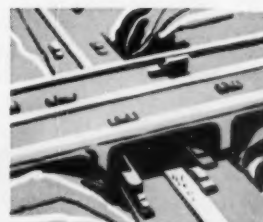


for cars, trucks and busses...



NEW HYATT BARREL BEARING!

You're looking at a cross section of industry's newest find—the bearing that's built with barrel-shaped rollers! Developed by Hyatt, the Barrel Bearing is of true dual-purpose design—it takes load from any direction. But more than that, the Barrel Bearing is self-aligning—and misalignment of supporting parts cannot cause excessive wear, as it does with ordinary bearings. Now in volume production, this new bearing is in the newest trucks and busses, in farm, textile and construction equipment, and in many types of oil field machinery. In fact, if you own a new car there's a good chance that Barrel Bearings are in the wheels and differential.



for construction equipment and many types of new machinery.

HYATT

STRAIGHT ☐ BARREL ☐ TAPER ☐

ROLLER BEARINGS

HYATT BEARINGS DIVISION • GENERAL MOTORS CORPORATION • HARRISON, N. J.

Highway Conference Supports BPR, Differs on Size of Federal Aid

• Federal Gas Tax, Toll Roads Stir Controversy

» UNANIMOUS agreement that a great renaissance of roadbuilding is long overdue, overwhelming support for the Bureau of Public Roads and conflicting views on repeal of the federal gasoline tax, the size of the federal aid program and the toll road mileage to be laid down, emerged as salient points of the National Conference on Highway Financing sponsored by the U. S. Chamber of Commerce last month in Washington.

The two-day conference was attended by more than 350 delegates from all parts of the country. Speakers came from the federal and state governments, Congress and private organizations with an interest in good roads. Laurence F. Lee, chairman of the board of the U. S. Chamber, opened the conference. Martin W. Watson, past president of A.G.C. and a director of the chamber, was chairman of a panel session on toll roads.

It was expected that views expressed at the conference would be considered by the Commission on Intergovernmental Relations, the Commission on Governmental Operations, the state governments and Congress, which is scheduled to conduct hearings in February preparatory to enacting a federal-aid road act for the fiscal years 1955-56 and 1956-57. An interested observer and active participant at the conference was J. Harry McGregor, (R., Ohio) chairman of the House Public Works Subcommittee on Roads. Mr. McGregor addressed a panel session on state and federal responsibilities and participated in the final conference session on a dynamic highway policy.

\$50 Billion Needed

It was the view of the conference that neglect of national highway requirements since the pre-World War II years had reached the point where an expenditure of some \$50 billion is needed to bring the country's highway system up to adequate standards.

Despite the tremendous expansion in the national economy, an increase in population from 124 million to 160 million and a jump in motor vehicle registration from 26 million to 55 million since 1931 (the year that marked

the end of the great decade of highway construction) the nation is devoting a lesser share of its economic endeavor to highways now than in the prewar years, it was pointed out.

Had the same proportion of this endeavor gone into highways in 1952 that did in 1940, the conference was told, total expenditures would have been \$8 billion instead of \$5 billion, a figure which, it was declared, would probably come close to meeting our annual requirements.

In the view of one panel speaker, James Cope, vice president of Chrysler Corp., the highway system actually does account for an annual expenditure of over \$8 billion at the present time—if money wasted because of highway deficiencies is included.

"It is misleading to say that we now spend \$5.5 billion yearly on our roads and streets," Mr. Cope declared. "Including the money we waste for lack of an adequate highway system, we spend \$8.5 billion plus—how much plus, we don't know. The money is just channelled the wrong way."

Mr. Cope said figures compiled by the Automobile Manufacturers Association indicated that the direct yearly cost of unsafe and inadequate highways amounts to no less than \$3 billion.

"It is my personal belief that the \$3 billion total is a very conservative estimate, and that it is becoming more conservative with every day we delay an adequate road program," he said.

Although the conference speakers differed in their recommendations as to how best to raise the money to improve existing highways and build new ones, there was no argument about the facts with which they documented the case against the nation's present road and street system. Briefly, they said the country is in the following highway "fix."

Basically we have about the same road and street system that we had in the late thirties when there were only about one-half as many vehicles in operation as we have now. There are now 55 million vehicles on our highways. This is an increase of about 80% compared to the end of 1945 when World War II was terminated.

This is enough if attached bumper

to bumper to circle the world ten times at the equator. Seventy-five per cent of all passenger cars and nearly 50% of all trucks in the world are in use in the United States. The President's Materials Policy Commission has predicted that by 1975 there will be around 85 million vehicles in use in this country.

While it is true that the more than 3,200,000 miles of public roads in the United States constitute one of our main items of supremacy over the other countries of the world, this road and street system is rapidly being strangled by our ever increasing transportation needs. There is now a backlog of needed highway facilities and modernization of nearly \$35 billion on the federal-aid system alone.

Official estimates show that about two-thirds of the mileage in the federal-aid system is in need of improvement. This system, while representing only about 20% of total rural mileage, carries over 80% of all rural traffic.

"One Percent System"

The interstate system authorized by the 1944 Federal-Aid Act, is limited to 40,000 miles and constitutes slightly more than one per cent of our national road and street mileage, yet it carries 20% of all traffic. The importance of this "one per cent system" is seen when it is noted that it joins 42 of the state capitals, 156 of the 164 cities of over 50,000 population, serves 65% of the major urban population and 45% of the rural population.

Modernization of this system, the backbone of transcontinental motor transportation, would cost about \$12 billion and could solve a large portion of our worst traffic bottlenecks. A modern interstate system would be vital in moving armed forces and in evacuating civilian personnel in case this nation were to become an active military theater.

Of course, as far as the average motorist is concerned all systems of roads and streets are welded into one system and he gives little thought if any at all when he turns off one road onto another as to whether he has passed from a highway under one jurisdiction to a street under another.

A common denominator for congestion and unsafe road conditions on any system which is well within the comprehension of all motorists, however, is the cost of his automobile insurance premium. It has been estimated that in 1951 the motor vehicle users in this

country paid in the neighborhood of two billion seven hundred million dollars in insurance premiums. In the same year capital improvements to the entire street and highway system amounted to almost two billion six hundred million.

As one speaker expressed it, "It would seem that we should adjust our thinking to a new level when we spend more for insurance than for the cure of the ills against which we insure."

There was no attempt to place dollar values on the human lives lost, the delays to persons and cargo, excessive fuel consumption and wear and tear on the driver and vehicle that go with congested and outdated highways.

While agreeing that the responsibility for increased highway construction lies with the states and should be retained by them, delegates to the conference disagreed as to the share of the federal government in highway financing and coordinating highway construction.

Conflict on Gas Tax

Repeal of the federal tax on gasoline was advocated most strongly by Gov. Walter J. Kohler of Wisconsin. Urging the government to withdraw from this field of taxation and leave it to the states, Gov. Kohler said this would eliminate costly duplication in the collection of the gas tax, do away with waste in the distribution of financial aid for construction of highways and would make for maximum use of the revenue gathered for construction of highways.

Gov. Kohler called for an end to federal aid except to some of the western states with large areas of government-owned land. Speaking as head of a committee of governors, he said the Bureau of Public Roads should concern itself only with the interstate highway system and should become "merely a vestigial appendage of the Department of Commerce instead of the huge agency it is now."

Gov. Kohler recommended as a personal view that Congress use some or all of the \$1.2 billion it collects from excise taxes on automobile production for development of the interstate highway system.

Placing himself in opposition to Gov. Kohler, Rep. McGregor declared that repeal of the federal gas tax would automatically do away with the Bureau of Public Roads and deprive the states of an agency to coordinate their various road programs.

"Each state highway director and governor could then build the type of road and determine the location of said road to suit his own personal and political desires," Mr. McGregor declared. "Our federal research road program would be scuttled."

Without the guiding hand of the bureau, he declared, "our roads would wander up and down the state where the votes are." Failure of the states to re-enact the federal gasoline tax as a state tax would leave our road program short by nearly \$1 billion at a time when good roads of all types are desperately needed, he said.

Declaring that he strongly favored continuation of the federal-aid program, Rep. McGregor called his audience's attention to "just five of the many, many things that have been accomplished through federal aid: 1) uniformity of standards, 2) stabilized highway programs, 3) uniformity of traffic laws and controls, 4) promotion of highway research and planning, and 5) spearheading of traffic safety."

He said the federal-aid program has assisted in the planning, construction and financing of the world's greatest road networks and has achieved this through a state-federal partnership which has preserved completely the sovereignty of each state and at the same time has provided for federal participation in meeting national constitutional obligations and needs.

Right to Initiate Work

"The matching principle, the apportionment of the funds according to a fixed formula and the retention by the states of their rights to initiate work and to carry it out under the private contract system, are essential components of this program," Mr. McGregor said. "In a nation as big and growing as rapidly as America, continuation of this long-range, large-scale highway program is essential to the well-being of our country."

As a compromise program pending eventual repeal of the federal gas tax, Richard M. Zettel, economist, Institute of Transportation and Traffic Engineering, University of California, a panel speaker, suggested retaining the federal tax for the time being but permitting future increases in state gas taxes to be credited against the federal tax if proceeds are used in highways.

"State revenues for highways would be increased by almost \$1 billion a year without any increases in direct

taxes on highway users, and the revenues would be available in the states in which they were generated," Mr. Zettel said. "After a time the federal government could repeal its tax, and the states could adjust their taxes in the light of highway conditions then existing. The federal government should of course continue a limited aid program to fulfill legitimate national responsibilities which appropriately are obligations of the general tax payer."

Support for the Bureau of Public Roads came also from A. E. Johnson, chief engineer, Arkansas State Highway Commission, and president of the American Association of State Highway Officials, as well as from other speakers, among them Harry I. Storey, farmer and director, Legislative Department, Iowa Farm Bureau.

Zero to \$2 Billion

Recommendations as to the size of the federal-aid program in the future varied from zero to the sum of \$2 billion a year. Most of the additional highway revenues required should be the responsibility of the states and should be raised by increasing state gasoline taxes, the conference indicated. It was also the general view that the federal share of highway financing is 10 to 12% of total highway expenditures and this share should not be materially changed.

No clear-cut conference view emerged on the place of toll roads in solving highway needs. Charles L. Dearing, Deputy Undersecretary of Commerce for Transportation, said that it is entirely possible that within ten years approximately one-third of the total rural mileage on the presently designated interstate system can be improved by self-liquidating toll projects. Conventional financing methods, he said, have proved deficient as the exclusive method of providing promptly the money needed to modernize the most costly segments of our highway system.

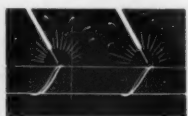
"In major respects, the lack of conventional highway user funds for these high traffic priority segments of the system is attributable to the prevalence of statutory formulas which allocate funds more in accordance with political considerations than on the basis of traffic need," he declared.

He added that a significant aspect of recent toll road experience is found in the extent to which traffic experts and engineers have generally under-

THE SHOW MUST GO ON



In the theatre of construction, Naylor light-weight pipe is constantly proving its performance ability. Take this scene from the building of the New York Thruway showing a line of 8-inch Naylor pipe feeding air to rock drills. Despite the constant battering from flying rock and the terrific impact of a fallen tree, there's no interruption in the lines and the show goes on. If this is the kind of performance you need for your jobs, write for Bulletin No. 507 and get the complete story.

NAYLOR  **PIPE**

Naylor Pipe Company • 1280 East 92nd Street, Chicago 19, Illinois
Eastern U.S. and Foreign Sales Office: 350 Madison Avenue, New York 17, New York

estimated the willingness of highway users to patronize these new high-type facilities despite the apparent high cost of the toll charge to the motorist and commercial operators.

However, Walter F. Carey, chairman of the board, American Trucking Association, declared that toll roads are symptoms of the "highway disease" and not a cure for it. "While these roads give temporary relief there is good reason to believe that in the long run they will aggravate the ailment and retard a full and complete recovery," Mr. Carey said.

"For in a sense, acceptance of toll roads is acceptance of the abuses which have made toll roads necessary and possible." He said he believed the attitude of the American Trucking Association might be described not as opposition to toll roads but as regret over the conditions which have brought them about. Our existing toll roads, he said, are monuments to the failure of highway users to back a dynamic highway construction program, adding that the fate of toll roads in the future will be measured by the yardstick of "our continued failure."

"We must recognize the simple truth that toll roads are only the inevitable effect of failure and not the cause," he declared. "When we recognize this truth we will have taken the first big step in the direction of success."

A Word of Caution

In describing the success of the New Jersey Turnpike, Paul L. Troast, chairman of the turnpike authority, said he thought it well to utter a word of caution:

"It is that toll roads are not the panacea for the nation's highway ills. Fundamentally the principle of sound toll road financing can be applied only in areas of traffic density where the traffic demand is greater than the highway supply and where traditional methods of financing normal free highway construction are woefully inadequate under today's conditions of greater vehicle use."

G. Albert Hill, commissioner, Connecticut State Highway Department, told the conference toll roads will pay for themselves on only 5,000 to 8,000 miles of the heaviest travelled roads in the country.

Ben H. Wooten, president, First National Bank in Dallas, and president of the Dallas Chamber of Commerce, and C. C. Hardwick, partner, Smith, Barney & Co., N. Y., also spoke at panel sessions of the conference.

\$575 Million in Federal Aid Apportioned

» APPORTIONMENT of the \$575 million authorized as federal aid to the states in the fiscal year beginning next July 1 was announced last month by the Commerce Department's Bureau of Public Roads under the highway act of 1952. It provides \$247.5 million for the primary system, \$165 million for secondary roads, \$137.5 for urban highways, and \$25 million for the interstate system. The funds are apportioned to the states as of January 1, 1954, and will be available for expenditure until June 30, 1957. The allotments remaining for states after setting aside an amount for administration and research as authorized by law, are as follows:

STATE	PRIMARY SYSTEM	SECONDARY ROADS	URBAN HIGHWAYS	INTERSTATE SYSTEM	TOTAL
Alabama.....	85,254,353	84,071,630	81,767,190	8536,065	\$11,629,238
Arizona.....	3,682,659	2,508,001	524,664	374,943	7,090,267
Arkansas.....	4,099,014	3,280,781	754,376	417,845	8,552,216
California.....	11,302,419	5,819,399	11,990,492	1,156,953	30,269,263
Colorado.....	4,430,632	2,959,462	1,121,056	451,275	8,962,425
Connecticut.....	1,596,556	804,375	2,612,362	163,779	5,177,072
Delaware.....	1,206,563	804,375	276,636	121,875	2,409,449
Florida.....	4,000,064	2,614,900	2,418,720	408,607	9,442,291
Georgia.....	6,093,832	4,634,049	1,965,808	621,611	13,335,300
Idaho.....	3,035,086	2,134,840	259,599	308,923	5,738,448
Illinois.....	9,485,889	5,165,792	9,433,309	970,391	25,055,311
Indiana.....	5,844,963	4,028,914	3,227,030	596,664	13,697,571
Iowa.....	5,946,365	4,351,647	1,601,372	605,903	12,505,287
Kansas.....	5,975,744	4,183,753	1,267,798	608,403	12,035,698
Kentucky.....	4,538,481	3,767,905	1,400,780	463,271	10,170,437
Louisiana.....	3,836,826	2,777,082	1,977,289	391,908	8,983,105
Maine.....	2,065,955	1,478,426	563,746	210,595	4,318,722
Maryland.....	2,164,618	1,323,108	2,289,281	221,739	5,998,746
Massachusetts.....	3,127,509	1,161,437	5,614,329	321,494	10,224,769
Michigan.....	7,641,646	4,662,919	6,277,985	781,229	19,363,779
Minnesota.....	6,385,910	4,508,055	2,196,488	650,982	13,741,435
Mississippi.....	4,401,911	3,666,740	746,808	448,780	9,264,239
Missouri.....	7,177,220	4,856,080	3,321,925	732,034	16,087,259
Montana.....	4,945,242	3,401,828	317,626	503,085	9,167,781
Nebraska.....	4,801,122	3,404,259	791,122	488,697	9,485,200
Nevada.....	3,179,310	2,124,823	102,729	323,336	5,730,198
New Hampshire.....	1,206,563	804,375	399,467	121,875	2,532,280
New Jersey.....	3,183,593	1,071,310	5,904,745	327,310	10,486,958
New Mexico.....	4,002,794	2,749,864	442,682	407,405	7,602,745
New York.....	11,573,650	4,637,841	18,029,580	1,187,586	35,428,657
North Carolina.....	6,101,355	5,211,948	1,793,316	622,886	13,669,505
North Dakota.....	3,572,139	2,593,772	228,084	363,355	6,757,350
Ohio.....	8,586,082	5,222,980	7,805,716	878,337	22,493,115
Oklahoma.....	5,269,114	3,772,951	1,473,687	536,936	11,052,688
Oregon.....	4,209,393	2,941,860	1,081,596	428,962	8,661,811
Pennsylvania.....	9,663,980	5,751,129	10,211,618	989,979	26,616,706
Rhode Island.....	1,206,563	804,375	964,266	121,875	3,097,079
South Carolina.....	3,315,477	2,745,191	927,881	338,411	7,326,960
South Dakota.....	3,845,626	2,746,570	261,991	391,167	7,245,354
Tennessee.....	5,335,882	4,158,793	1,950,550	544,484	11,989,709
Texas.....	15,972,097	10,694,852	6,462,029	1,628,769	34,757,747
Utah.....	2,830,795	1,872,691	571,559	288,296	5,563,341
Vermont.....	1,206,563	804,375	210,927	121,875	2,342,840
Virginia.....	4,676,730	3,634,841	2,103,426	477,631	10,892,628
Washington.....	4,070,327	2,719,183	2,035,293	415,444	9,240,247
West Virginia.....	2,685,059	2,337,564	877,871	274,317	6,174,811
Wisconsin.....	5,816,900	4,058,553	2,641,382	593,492	13,110,327
Wyoming.....	3,070,586	2,080,954	146,664	312,346	5,610,550
Hawaii.....	1,206,563	804,375	453,586	.....	2,464,524
District of Columbia.....	1,206,563	804,375	1,165,310	121,875	3,298,123
Puerto Rico.....	1,278,217	1,335,768	1,159,454	.....	3,773,439

SLOANE QUANTITY SURVEYS

FOR ALL CLASSES
OF CONSTRUCTION

• Large staff of engineers

• Speed, accuracy, full
detail assured

• Reasonable fees,
pre-fixed

Approved by A.G.C.
and Governmental Authorities

You can depend on surveys by

H. A. SLOANE ASSOCIATES

Established 1922

415 LEXINGTON AVE., NEW YORK 17

ROADS

bad

MAKE THEM

good

WITH THE NEW



...THE SMALL BITUMINOUS
MIXER THAT MEETS THE NEED
FOR ALL MAINTENANCE
AND SMALL PAVING JOBS

see your B-G distributor
or write

Barber-Greene

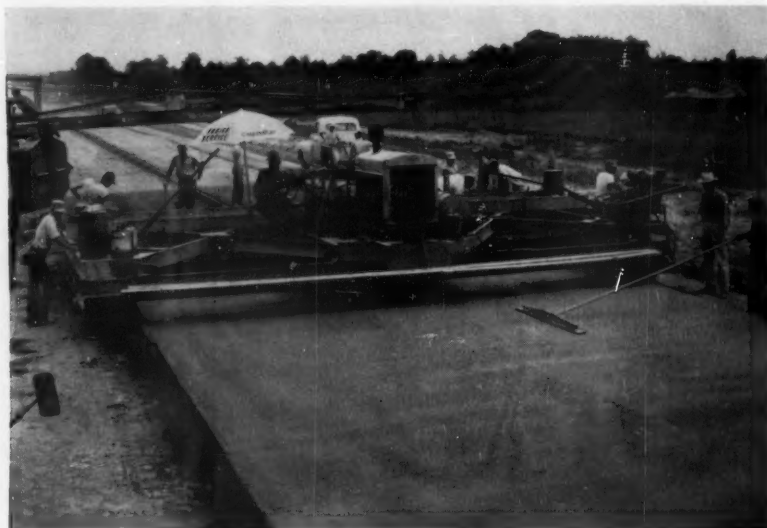
AURORA, ILLINOIS, U. S. A.

Contractor's Paver Eliminates Regular Forms

• Powered Machine Lays 1500 ft. of 24-ft. Concrete Base in Day

» A SELF-PROPELLED paver, eliminating conventional forms with its built-in sliding forms and capable of paving 1,500 ft. of highway a day, has been developed by the Regenhardt Construction Co., A.G.C., Cape Girardeau, Mo.

Believed to be the only concrete paver of its kind, the machine is said to reduce normal paving costs by 10%. In laying a 24-ft. portland concrete base course 9" thick last fall along Illinois Route 37 in Franklin County, the machine paved a 4.8-mi.



The finishing machine, above, developed by the Regenhardt Construction Co., is the only one of its kind capable of paving a full 24-ft. width without forms. Company president D. L. Harrison says: "We believe that with the success of our paving machine, it has been demonstrated that the idea of paving without forms is no longer in the dream stage. We do not claim that the culmination of the idea has been reached. However, we do not foresee at this point any problems ahead which cannot be overcome. It was with and through the cooperation of the Illinois Highway Department that our experiment and development was made feasible."

stretch of road, requiring 12 fewer workers than normally needed for such a job. The elimination of forms made this labor saving possible. A standard paving mix was used, but a supply difficulty reduced average speed to 1,044 ft. per day.

The machine is powered by a 120 hp. gasoline engine and is supported on the shoulders of the road by a pair of caterpillar tracks. Designer of the machine was W. F. Merritt, of Marion, Ill., chief mechanic of Regenhardt, who used only parts available in the company's shops. Cost of the machine was \$17,500.

With the aid of the Illinois State Highway Department all of the details were worked out from rough sketches. Proper thickness of the base course slab was the big problem. After a few trial runs (without any concrete mix) the machine with its many gears worked perfectly when first used on the job. Only minor adjustments were necessary to improve its operation.

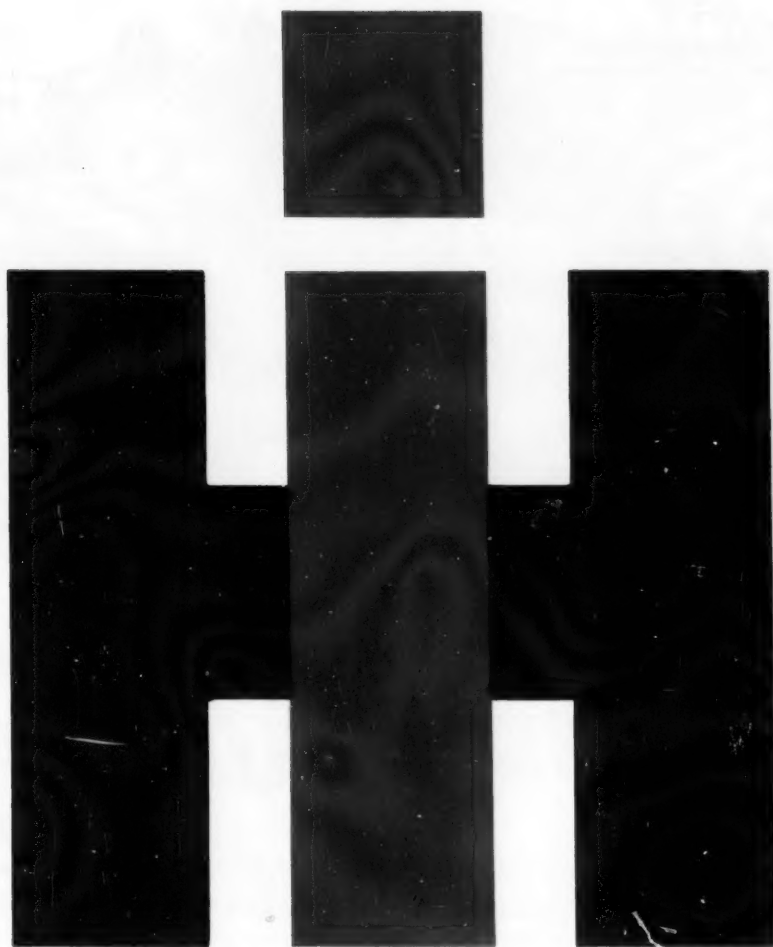
The locomotion of the paver is controlled by the operator who rides beside the engine. He keeps it "on course" with a pointer hinged at the bottom of the left front moving form. A forked wire traveling along a cord stretched between stakes at 25-ft. intervals tells the operator when he is "on course."

Concrete is poured on granular sub-base by a bucket on a boom attached to the mixer traveling alongside the paver. As the machine moves forward, a front oscillating screed strikes off the concrete at the approximate height, and pushes a 6" to 12" roll of concrete ahead of it.

A rear oscillating screed strikes the concrete surface to its prescribed height after the base slab is packed with a transverse surface vibrating unit of two 2x10" boards powered by a central motor mounted midway between the two screeds. The sliding forms leave the edges firm and sharp with no slumpage.

A burlap strip is attached to the frame of the paver ahead and below the bridge at the rear of the machine to give the new concrete a final finishing.

Many highways engineers and several equipment manufacturers have shown interest in the machine and have sent representatives to look it over. The Regenhardt Co. has applied for patents on the machine's principal features.



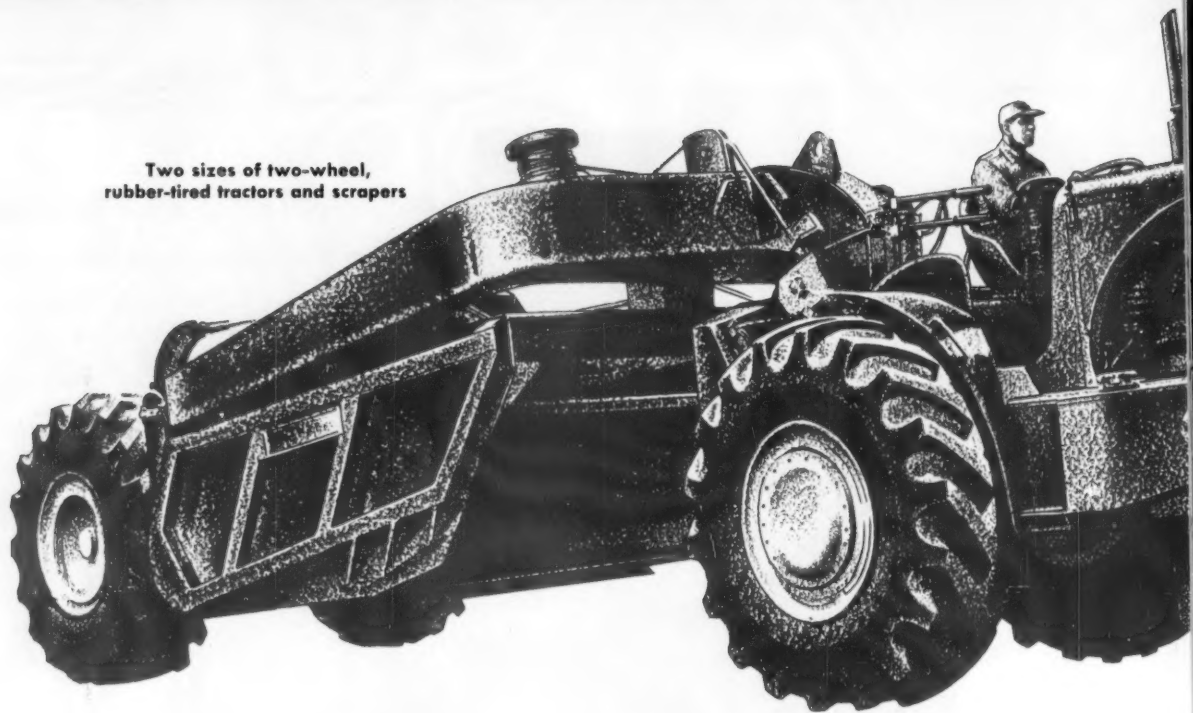
International Harvester and INTERNATIONAL Industrial Distributors present a complete line of modern earthmoving equipment, led by the INTERNATIONAL two-wheel, rubber-tired tractors with scrapers, and by "Big Red," the INTERNATIONAL TD-24, world's most powerful crawler



INTERNATIONAL

POWER TO MOVE THE EARTH

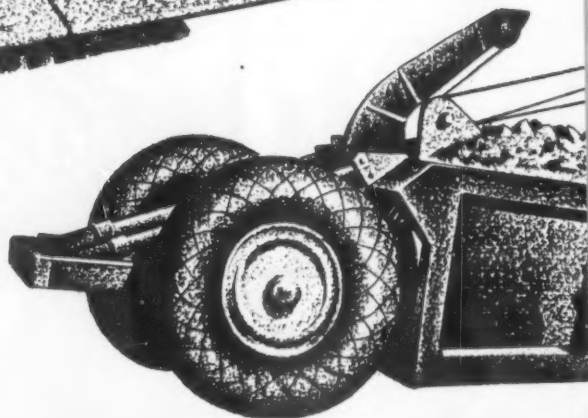
Two sizes of two-wheel,
rubber-tired tractors and scrapers



**Now a complete earthmoving line
that comes in the**



TD-24 with tilting bulldozer





Two-wheel, rubber-tired tractor with wagon

Big Red Package

Got a big job to do? Call on INTERNATIONAL'S new Big Red Team!

- Seven rugged crawlers headed by the TD-24—most powerful crawler on the market!
- Twenty-two matching hydraulic and cable-controlled bulldozers and bullgraders, with land-clearing blades available!
- Four 4-wheeled scrapers!
- Two high-speed, two-wheel, rubber-tired tractors with scrapers (13 and 18 heaped-yard capacity)!
- A high-speed, two-wheel, rubber-tired tractor with bottom dump wagon (20 heaped-yard capacity)!

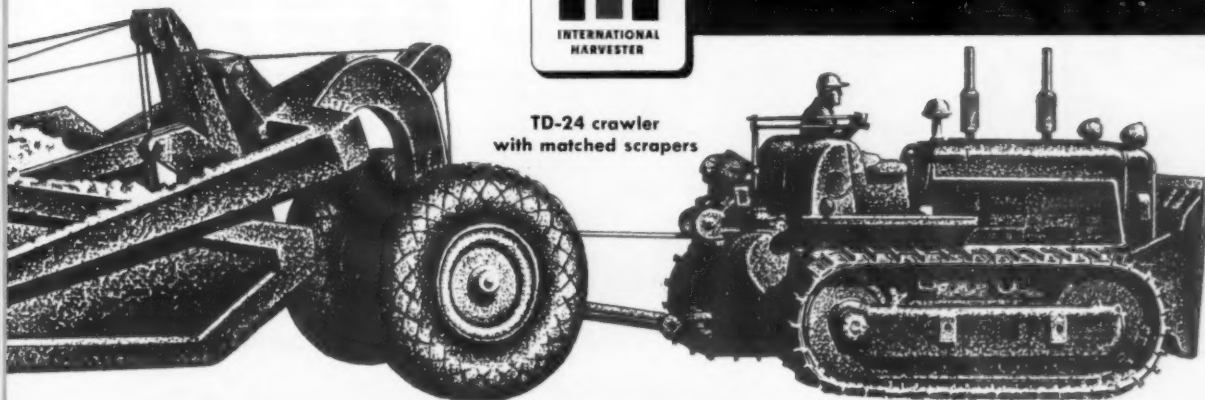
These great machines, now grouped under the INTERNATIONAL banner, have proved their dependability and economy to contractors for years on big projects around the world.

Your INTERNATIONAL Industrial Distributor has the equipment that will help you make a profit on any job you tackle. Call him for full details . . . or for actual demonstrations. See for yourself!

POWER THAT PAYS



INTERNATIONAL



TD-24 crawler
with matched scrapers

Now All in One Family

the hardest-working work teams in the world!

The new INTERNATIONAL team stars not only a full line of rugged red INTERNATIONAL crawlers, complete with INTERNATIONAL scrapers and bulldozers, but also high-speed INTERNATIONAL two-wheel, rubber-tired tractors with scrapers.

This means that now, more than ever, your INTERNATIONAL Industrial Distributor is

"Earthmoving Headquarters" for your area. He offers you IH equipment to tackle any job, backed up by unsurpassed service facilities and parts supplies.

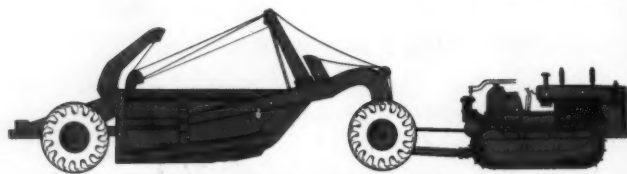
He's at your call, always, to help keep your equipment rolling . . . to cut down your down-time and pile up your profit-time . . . to serve you with INTERNATIONAL "Power that Pays!"

INTERNATIONAL HARVESTER COMPANY, CHICAGO 1, ILLINOIS



INTERNATIONAL

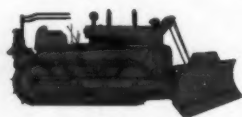
POWER THAT PAYS



TD-24 crawler with matched scrapers



TD-18A crawler with matched scrapers



TD-24 crawler with bulldozer



TD-14A crawler with cable bulldozer



TD-9 crawler with hydraulic bulldozer



T-9 crawler with hydraulic bulldozer



TD-6 crawler with hydraulic bulldozer



T-6 crawler with hydraulic bulldozer



Model 2T-75 two-wheel, rubber-tired tractor with 18 heaped-yard capacity scraper



Model 2T-75 two-wheel, rubber-tired tractor with 20 heaped-yard capacity bottom dump wagon



Model 2T-55 two-wheel, rubber-tired tractor with 13 heaped-yard capacity scraper

Michigan AIA-AGC Group Reaps Benefits of Cooperation

• Completed Specification Outline Now Being Considered for State-Wide Adoption

(Below are two reports, one from the architects' division of the A.I.A.-A.G.C. Joint Committee and the other from the contractors' division, which describe and evaluate independently of each other the work of the committee since its establishment in 1951.)

Architects' Report

During the past year, the architects' committee representing the Western Michigan and the Saginaw Valley Chapters of the A.I.A., has continued meetings with the contractors' committee representing the Michigan Chapter, A.G.C., as a joint cooperative committee.

A major project has now been completed with the printing of the Building Specification Outline.

The cost of the printing and distribution of the outline was financed jointly by the two A.I.A. chapters and the Michigan A.G.C. chapter. Some 500 copies were mailed out to the membership of both the Michigan and the Detroit A.G.C. chapters and all architects on the roster of the Michigan Society of Architects.

Copies were also sent to the architectural and engineering departments of the University of Michigan, Wayne University, Michigan State College, University of Detroit and the Michigan College of Mining and Technology. A committee of architects from the Detroit area is now giving the specification outline serious consideration and may later suggest desired revisions and additions with the thought that eventually the outline may be recommended for general use by all the Michigan chapters of the A.I.A.

Great Interest in Project

The joint committee has noted a great deal of interest in this project and has received many helpful suggestions and favorable comments from various parts of the state. The matter of properly specifying temporary heating and temporary lighting has received the attention of the committee. Specification inserts for these items have been approved by the joint committee and copies have been forwarded to all Michigan Society architects. The subject of checking and approval of shop drawings has been discussed at length. It was agreed that the archi-

tect should check shop drawings for design, general arrangement and intent of his plans and specifications.

The contractor should check and be responsible for correct length, size of members and units, so that they will fit into the work of other trades. It was agreed that all shop drawings should be routed through the contractor and should not be unduly held up by the architect. In regard to compulsory listing of sub-contractors the joint committee was of the opinion that this requirement could be dispensed with, provided the architect be given the opportunity to approve or disapprove the list of sub-contractors within one week of the contract award. The joint committee further agreed to recommend that the number of unit prices be kept to a minimum, since asking for unit prices for possible additions or deductions is a rather unrealistic procedure unless quite complete information and details are furnished for such items.

Revisions to Protect Owner

Considerable time was spent on the subject of builders risk and fire insurance. Revisions are proposed in the insurance requirements in the general conditions of the contract in order to properly protect the owner, the architect and the contractor. Mr. Robert Olp of the Marsh & McLennan

Co. of Detroit has spent considerable time with the committee on this matter. Certain revisions have been proposed for adoption to Mr. William Stanley Parker, F.A.I.A., chairman of the National A.I.A. Committee on Contract Documents, to the Detroit Chapters of the A.I.A. and the A.G.C. and to the National Joint A.I.A.-A.G.C. Committee.

There are still many matters that could be profitably studied by the joint committee, such as: excessive requests for alternate bids, reducing the retained percentages after the job has been 50% completed, elimination of unfair and unreasonable catch-all clauses in the specifications, and retained deposits on plans and specifications. The specification outline should be completed so as to include heating, plumbing, wiring, air conditioning, sprinkling and electrical work.

Contractors' Report

The joint cooperative committee composed of representatives of the Michigan Chapter of the A.G.C. and the Saginaw Valley Chapter and the Western Michigan Chapter of the A.I.A., was organized early in 1951 for the general purpose of improving the relationship between contractors and architects and eliminating practices objectionable to either.

The committee, at its first meeting,

The Michigan A.I.A.-A.G.C. Joint Committee—Seated left to right, Arthur Read, Warren S. Holmes, architects, Lansing; Morse Heineman, J. R. Heineman & Sons, contractors, Saginaw; Robert Babcock, Louis C. Kingscott & Assoc., architects, Kalamazoo; Clarke E. Harris, Warren S. Holmes; George W. Combs, secretary-manager, Michigan Chapter, A.G.C.; Donald Maxwell, Miller-Davis Co., contractors, Kalamazoo, co-chairman; Benjamin W. Hertel, architect, Grand Rapids, co-chairman, and Elmer Manson, Manson & Carver, architects, Lansing.

Standing left to right, Glenn M. Beach, architect, Saginaw, and Jack Barnes, Barnes Construction Co., Grand Rapids. Not shown were Max Reniger, Reniger Construction Co., Lansing; Donald A. Kimball, architect, Saginaw, and John Potter, Strom Construction Co., Grand Rapids.

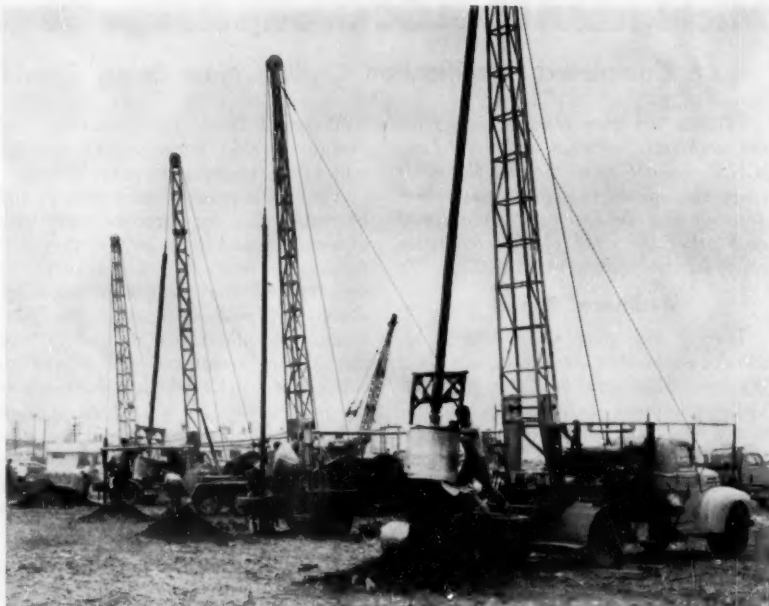


Tough Foundation Problem

MacIsaac and Menke Co., Los Angeles, encountered unusual difficulties in sinking footings for a plant annex at Vernon, Calif., because the site had been used as a source for sand, and subsequent refilling of the excavations was done by dumping all kinds of refuse.

A 24-in. drill rig encountered large chunks of concrete and metal in the first attempt. Next, a crane was used in an attempt to reach natural soil which was found to vary in depth from 0 to 32 ft. The size of the excavation required to offset the crumbling of the refuse was found to be impractical.

Finally, a 30-in. drill proved effective in penetrating to 35 ft., with an "orange peel" bringing up the larger pieces of refuse. When very large pieces were encountered, a 30-in. steel casing was used to shore up the hole, enabling a man to descend and break them up with an air hammer. Sandy clay soil was tamped in as a binding arch in some areas where there was very loose soil to hold the fills until



drilling and pouring were completed.

To meet the time element, a battery of six specially-built rotary drills with 20-ft. booms, mounted on 2½-ton Chevrolet trucks, were employed

simultaneously for the 67 penetrations required. Water was left to stand in the excavations overnight to produce a binder on the sand in the bottoms, and belled out next morning.

(A.I.A.-A.G.C.—Continued)

decided that its primary undertaking would be the preparation of a specification outline with the hope that a sufficient number of architects would recognize its benefits and put it to use so as to produce some semblance of uniformity in this phase of the construction business. Of all the subjects discussed, the matters of "temporary heat" and "temporary wiring" created the most interest and were given the most time.

Poll Being Taken

The committee felt that these subjects were so important and so generally misunderstood that they should be given extra attention and time. These two subjects were the only ones deemed so important that actual clauses recommended for inclusion in architect's specifications were written and included in the outline. The outline was sent to all members of the A.I.A. outside of the Detroit Area in March of this year. A poll of the architects in outstate Michigan to whom the outline was sent is now being taken and incomplete results show that of the replies received to date, 38 are using the outline, seven have not had time to study it, and only two dis-

approved of it as published.

Reports from contractors, subcontractors and material suppliers who have figured work from the offices of architects using the outline indicate that their work is simplified, that it is much easier to compile a complete and accurate estimate and that the time required is greatly reduced. The committee is very much gratified by these results and will continue to work to have the adoption of its outline as widespread as possible.

Since the completion of the outline, the committee has devoted its time to the discussion of matters which were felt to be unjust or which were felt to cause undue hardships. Among the more important of these was the matter of taking separate mechanical bids. While the committee was not 100% in agreement on this subject and the discussion has not been completed, it was recognized that the arguments against the practice probably overshadow those in favor of it.

Another subject discussed was the requirement of submitting a list of subcontractors with the bid. It was agreed that this was an undue hardship on the bidder and that in cases where the architect wished to pass on the subcontractors it would

suffice if the list were submitted a week or ten days after the contract award.

On the matter of unit prices required to be submitted with the bid, it was agreed that these should be kept to a minimum and prices should not be asked on items which might vary greatly under different conditions. It was the consensus that there should be one price for deductions and a different price for additions.

It was also agreed that addenda should not be issued too close to the date for receiving bids and that article 5 of the A.I.A. standard form of general conditions pretty well covered the matter of submission and checking of shop drawings.

The insurance clauses of the A.I.A. standard form of general conditions are now under discussion in cooperation with the Detroit A.G.C. and A.I.A. representatives and it is hoped that before long revised wording can be published for use in Michigan.

Other pertinent subjects will be taken up by the committee as time goes on and it is hoped that the fine cooperation between the A.I.A. and A.G.C. members will continue as the writer feels that the benefits of the work of the committee are worthwhile.

Ike Gets Housing Report

After studying the federal government's housing programs and organization for nine weeks, the President's Advisory Committee on Government Housing Policies and Programs last month submitted to President Eisenhower a 374-page report containing recommendations, according to Albert M. Cole, administrator of the Housing and Home Finance Agency, and chairman of the committee, which would provide the "basis" for building over one million new homes a year, if enacted by Congress.

In compiling the report, the committee, consisting of 23 persons experienced in various fields of housing activity and interest, which was appointed by the President on Sept. 12, 1953, received the views and recom-

mendations, orally or in writing, of approximately 200 persons and organizations.

The four basic areas studied by the committee were: housing credit facilities, FHA and VA housing programs and operations, urban redevelopment, rehabilitation and conservation, and housing for low-income families.

In submitting the report, Mr. Cole said: "I believe this report will prove to be an outstanding contribution to the future progress and improvement of housing in this country."

Mr. Cole characterized the report as an attack on slums and the decay that blights American cities and towns. The committee endorsed the need for government-subsidized low-cost housing and recommended that the government help restore run-down neighborhoods.

Emphasizing that the proposals

were not the administration's housing program, Mr. Cole said the committee also recommended:

1) A new national mortgage marketing corporation, federally chartered and started but privately financed, to provide a secondary market agency for FHA and VA loans. 2) That FHA and VA maximum interest rates be set on a new formula not to exceed existing yields on long-term government bonds by more than $2\frac{1}{2}\%$. This would be about $5\frac{1}{2}\%$ at present rates, but the committee saw no need to increase the present $4\frac{1}{2}\%$ FHA and VA loans. 3) A broad program to encourage low-cost housing, including an experimental two-year program to insure houses costing up to \$7,600 for 40 years without down payments. 4) Reorganization of the government's housing agencies to give greater efficiency and economy.

Camps in Japan Completed

Uniting in joint ventures, Japanese contractors have recently brought to swift completion two large camps for the U. S. Army which while at first glance of the most modern American appearance, retain a certain Japanese air in their interiors.

Both camps, Camp Zama in the Kanagawa Prefecture, and Camp Drake in the Saitama Prefecture, were designed so that they may be utilized as universities or hospitals when they are no longer needed as camps. Executed under contract with Japan Construction Agency, an arm of the American Security Forces, Camp Zama and its annex total 338,000 square feet in floor area, and Camp Drake, 136,000 square feet.

Both, according to Seitaro Ando,

president of the Associated General Contractors of Japan, are two-story reinforced concrete buildings, Camp Zama requiring 11 months to build and Camp Drake 10 months. All concrete is unfinished, a fact which gave the builders extra pains in the preparation of the forms because even year-rings in the wood would remain on the concrete surface.

The effect of this, however, is not unpleasing. Windows are of steel sash, floors of asphalt tile, and the roof and walls are insulated with platon board. Ceilings are lined with acoustic board, heating is by steam and all illumination is by fluorescent lamp.

Natural ventilation and daylight were utilized to the maximum. Best use of domestic materials was made. Although the contractors had had little experience in joint ventures before, they worked together smoothly.

Col. E. E. Kirkpatrick, U. S. Army, chief of Japan Construction Agency, said: "I have found a great deal to admire in the know-how, industry and manual skill of the Japanese contractors and labor working on Japan Construction Agency projects. At Camp Drake and Camp Zama, two of the focal points of our program during the past year, I have been able to learn much about these men and their methods."

"Many problems face the contractor who takes on a Security Forces construction job. He encounters them first in the plans and specifications, which must be prepared to meet definite standards and which must be understood in two languages. He must then adapt the special skills and working habits of his men to the often quite different methods required by western standards and schedules."



Camp Zama Main Building First Floor Hall



Camp Drake Rear Porch



rubber-tired 12.6 M.P.H. Trenchmobile®

... makes self-powered moves
Parsons rubber-tired 88 Trenchmobile drives anywhere at road speeds up to 12.6 m.p.h. . . no waiting for trailer, loading or unloading delays. It maintains fast "work-and-run" schedules . . . a job 6 miles away can be started in less than 30 minutes from "now".

Digs up to 14 1/2 ft. per minute . . . 8 to 16 in. wide, in depths to 5 feet . . . gives you low-cost, one-man trenching on gas and water mains, off-street service connections, pipe reclamation, underground cables, lighting and sprinkling systems, foundation footings, etc.

Undercuts sidewalks, curbs, gutters, mains
With reverse traction and sloping ladder boom, Trenchmobile handles undercutting, makes vertical set-ins flush with foundations, saves hand clean-up. Hinged crumbler swings up, out of the way. Positive down crowd on boom starts cut fast, maintains grade in hard soils.

Shock-load protection . . . Dual-purpose friction clutch automatically protects all machinery against shock loads and drives the bucket line. Buckets are

high-carbon cast steel . . . and have self-sharpening, easy-in, easy-out "Tap-In" teeth that maintain maximum digging efficiency under all soil and job conditions.

Controlled discharge . . . shiftable, reversible belt conveyor discharges spoil to either side of machine, dodges walls, poles and other side obstructions without swerving from trench line. Discharge height remains constant regardless of digging boom depth.

Hydraulically-controlled backfill blade (optional) doubles Trenchmobile usefulness, lets you handle the entire job of trenching and backfilling with one-man and one-machine economy.

On your work, all these Trenchmobile advantages can mean more jobs completed per day at lower cost, with less supervision . . . and more profit for you. It will pay you to get all the details on this 43.6 h.p., rubber-tired 88 Trenchmobile from your Parsons distributor . . . or send for bulletin. Also check Parsons 5 big heavy-duty Trenchliners®, wheel and ladder types, full crawler mounted, for constant savings on major trenching jobs.

P2002REV.

Send for
Trenchmobile
bulletin

to: PARSONS COMPANY, Newton, Iowa

NAME _____
COMPANY _____
STREET _____
CITY, STATE _____

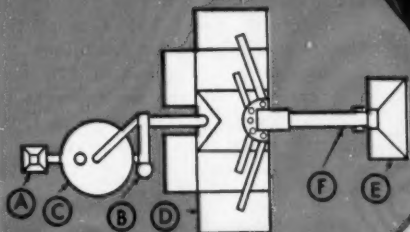
PARSONS
COMPANY • NEWTON, IOWA
(Kochring Subsidiary)



Check JOHNSON

"Packaged Plant"

for
transit-mix
concrete



Specially developed for low-cost production of transit-mix concrete, this plant is a typical example of Johnson "complete-package" engineering. Plant is fully Johnson-equipped. Every function, from receiving and storage of materials to final weigh-out, is carefully coordinated for fast, accurate operation. Here's how it works:

Truck-receiving hopper (A) feeds cement into a screw conveyor, which carries the cement to enclosed bucket elevator (B). 275-bbl.-per-hour elevator fills an all-welded, 520-bbl. storage silo (C), or directs the flow of cement as needed into central compartment of plant bin (D). Aggregates are received at truck-unloading hopper (E). An open, inclined elevator (F) feeds the aggregates into a

pivoted distributor, mounted at top of bin. Johnson welded tandem bin provides total overhead storage capacity of 110 cu. yds. for immediate plant use. Bin consists of four 19-yd. aggregate compartments, and a centrally-located, 250-bbl. cement compartment. On batcher floor, below bin, 2 cu. yd. Concentric Aggregate-Cement Batchers, and a Johnson water batcher accurately weigh out materials, and discharge into transit-mix trucks.

For any transit-mix, central-mix or concrete products operation, large or small, it will pay you to check the efficiency of Johnson plants and accessory equipment. See your Johnson distributor soon, or write us.

C.S. JOHNSON COMPANY

CHAMPAIGN, ILLINOIS • (Kochring Subsidiary)



BINS • BATCHERS • RECEIVING HOPPERS • SILOS • ELEVATORS • BUCKETS

Work Progressing on Delaware River Bridge

• Span to Connect South Philadelphia and New Jersey

» THE DELAWARE River Port Authority has begun work on a seven-lane high-level suspension type bridge across the Delaware River between Packer Avenue in South Philadelphia and Gloucester City south of Camden, New Jersey. Plans for this new bridge began almost immediately after completion of the existing Delaware River span connecting downtown Philadelphia with Camden, New Jersey, which opened in 1926. It is still the main traffic artery between Greater Philadelphia and southern New Jersey points, the Atlantic beaches, New York, and the New Jersey turnpike.

When the present Delaware River Bridge was opened to the public, it carried 8,593,201 vehicles its first full year of operation. Since then motor traffic has increased by more than 2 million vehicles annually, and the new bridge, at an estimated cost of \$90 million, is expected to divert 15 million vehicles in its first full year.

The joint engineering firm of Modjeski and Masters-Ammann and Whitney are handling design and construction supervision. All of the four main contracts have been awarded, and the first two are already at work. Contract #1 has been awarded to the Felhaber Corporation, of New York City, who bid at \$3,219,620 for the

construction of the river piers. Contract #2, for the anchorage foundations, went to Merritt-Chapman and Scott, A.G.C., also of New York, at a bid of \$3,400,410. The contract for the towers has been awarded to Bethlehem Steel Co., at a bid of \$6,610,070, and the fourth contract, for the anchorage superstructure, was awarded to U. S. Steel for \$4,768,293.

The central span will be 2,000 feet long over the entire navigable width of the river. The general location extends from the line of Packer Avenue in South Philadelphia, over a unit of the Publicker Industries plant, directly across the Delaware, and along the southern edge of the property of the New York Shipbuilding Corp. and the northerly portions of the property of the Radio Corp. of America, in Gloucester, New Jersey.

The main structure will be suspension bridge, and on the center line the distance between established pier-head lines is 1,886.13 feet. The main span provides a vertical clearance above mean high water of 150 feet at the centerline and 137 feet at the towers under operating conditions.

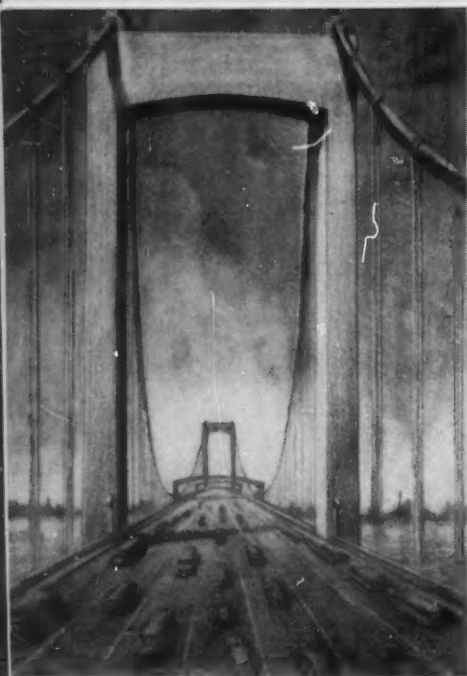
Suspended side spans of 770 feet will extend from the main towers to the anchorages, located well back from the river shore lines. Roadway grades are 3% in each side span, rising toward the central span.

Seven Traffic Lanes

The bridge roadway is to be 79 feet wide between curbs, providing a total of seven traffic lanes. Three central lanes will be reversible for peak traffic in either direction by use of colored signal controls. Emergency and maintenance walkways three feet wide will be provided on either side.

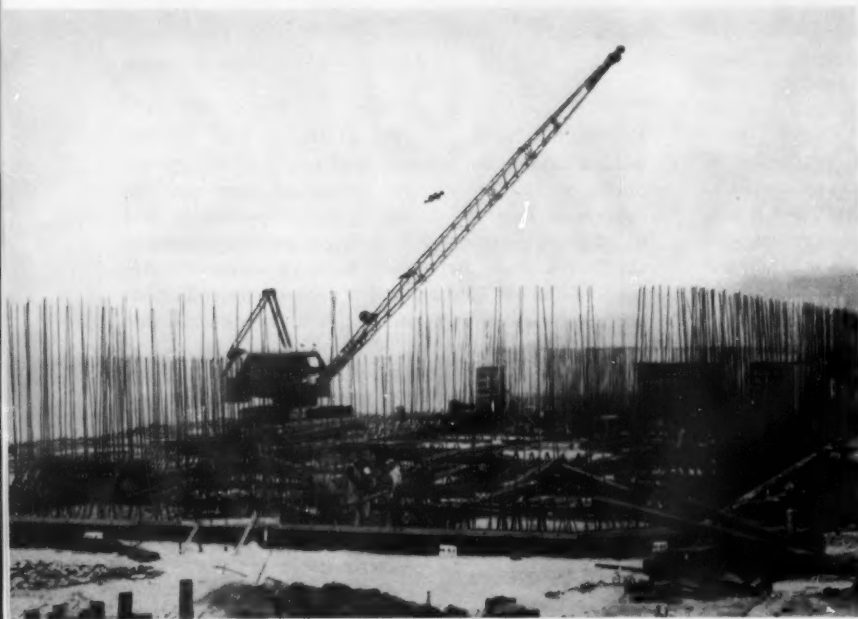
The piers for the two main towers will be constructed upon reinforced concrete open-dredged caissons. The upper portion of the piers will be faced with granite masonry from below the low water line to the top, while the towers themselves will be of steel and will stand 377 feet high.

Actual construction began last August with a mass movement of heavy equipment. The first phase was the Felhaber Corp.'s construction of the huge piers on each side of the river which will support the bridge cables. Only 15 feet of the piers will show above the water. The pier on the



Top: Artist's drawing of towers and roadway of new Delaware River Bridge indicates majesty and width of structure. The bridge roadway will be 79 feet wide between curbs, providing seven traffic lanes. Three central lanes can be reversed for peak traffic in either direction by use of colored signal controls. Steel towers will reach 377 feet above the river.

Below: On New Jersey side, early stages in the construction of tower pier are shown. Sand "island" (held in place by sheet piles) was pumped from river bed to provide working space for building caissons to hold the pier in place. This operation not only brought in sand and gravel from the river bed but also deepened the ship channel.





Intricate network of the New Jersey approaches to bridge between Philadelphia and Gloucester is shown in above drawing.

Philadelphia side will be sunk in the river 450 feet offshore, while the Jersey pier will be closer to shore. Each pier requires 40,000 cubic yards of concrete and 492,000 lbs. of reinforcing steel.

Before construction of the piers could begin, the Felhaber Corp. had to provide a proper footing in the river bed to begin excavation for the piers. Excavations 300 feet square and 45 feet deep were dug on either side of the river to clear away silt and mud. Clean, hard sand was pumped into these holes, building a sand island in the river to provide working space for the caissons to be used in placing the piers. The sand will be kept in place by sunken interlocking sheet piles. The caissons open at the top will have concrete poured into them in many sections, the weight of which will sink the caissons into the river and force the muck from the river bed through the holes.

The on-shore cable anchors will go 80 feet into the ground on the Philadelphia side and 102 feet above. Some 54,000 cubic yards of concrete

will be used, with more than a million pounds of reinforcing steel bars and 13,000 running feet of supporting pilings. The cables will be 23 1/8" in diameter. Two cables represent 16,600 miles of wire stretched end to end.

Approaches Built Simultaneously

The approaches to the new bridge will be built simultaneously with the crossing itself. On the New Jersey side, the bridge approach will be connected with a new state highway, the North-South Freeway, which will have connections with all the major highways in southern New Jersey. The Philadelphia approach will extend from the river westward and eventually will connect with the proposed Schuylkill Expressway.

The toll plaza will be located on the Philadelphia side, with 20 lanes. The expense of the approaches, \$22 million, is part of the total cost of the project. This includes construction of the bridge landward from the bulkhead lines and the actual amount allocated by the Port Authority for access roads is \$14 million.

The bridge will not only facilitate traffic but also encourage industrial development. It will link the entire South Jersey area to the Philadelphia International Airport, and when the Schuylkill Expressway is completed, will link the Pennsylvania and New Jersey turnpikes.

Much of the construction is being done in swamp land and an enormous amount of fill is required for both sides of the river. However, the Delaware itself is an inexhaustible supply source. Thousands of yards of silt and mud had to be excavated to get down to the hard sand below. This will be repeated in the construction of the approaches so that at the same time the river will be deepened and sand and gravel pumped ashore to provide staple materials.

The completion of this project is December of 1956 or spring of 1957. A traffic survey indicates that by 1978 this bridge will be carrying 31 million vehicles yearly, and it is anticipated that two more bridges will be needed along the Delaware to service adequately the increase in traffic per year.

Artist's conception of how the bridge connecting South Philadelphia and neighboring New Jersey will look when completed.



HOW TO HANDLE WET JOBS

AIR BASE DRAINAGE PROJECT

Charleston, S. C.

Contractor: C. Y. Thomason Co.



WELLPOINT ENGINEERS CUT UNIT COST WAY DOWN

THIS JOB required the laying of 2 miles of 18 in. to 48 in. concrete-pipe storm-sewer in wet trench (depth ranged from 14 to 21 ft). Apart from ground water, the Griffin Wellpoint engineers also had to contend with a sub-soil of erratic nature, necessitating sand filters around most of the points.

- Who'd think such an operation could be rushed through at extremely low unit cost? Yet it was. Thousands of dollars were saved in the installation alone by the use of special slip-on hose-swing joints (showing in photo above.)

- Two wellpoint systems, with 2 different crews, kept working simultaneously, thus drying job "on the double." Was contractor pleased? So much so that both of the wellpoint systems are being permanently retained.

- For "quick-dry" . . . specify . . . Griffin.



WELLPOINT CORP.

881 East 141st Street, New York 54, N. Y.
Hammond, Ind. Houston, Tex. Jacksonville, Fla.

In Canada: Construction Equipment Co., Ltd.
Toronto Montreal Halifax

HEAVY • RAILROAD

Industry Eyes Atomic Energy Developments

• A.G.C. Members Among Firms Getting Ready To Enter Field

» THE Atomic Energy Commission's decision to build a full-scale atomic energy plant for the generation of electric power rather than have private industry do it on its own was taken because of the urgent need for this country and the free world to maintain the lead in the peaceful application of atomic energy as well as in the development of atomic weapons.

In announcing the commission's intention of going ahead with the construction of a multi-million dollar plant, Thomas E. Murray, a member of the commission, said he would have preferred to see private enterprise take the lead in developing an atomic plant, but that the costs at this stage were prohibitive. He said, however, that the AEC would welcome any private company which wanted to invest risk capital in any phase of the planned power station.

Site Not Selected

No site has been selected yet for the project, which will cost "tens of millions of dollars" and will produce a minimum of 60,000 kilowatts of electrical energy—capable of supplying a city of 60,000 to 100,000 population with "good possibilities of much higher output." Principal contractor for the project will be the Westinghouse Electric Corporation, which was chosen because of its experience with the reactor system picked for the plant.

Rear Admiral Hyman G. Rickover, the atomic submarine expert, has been borrowed from the Navy and is in charge of the project. The AEC hopes to have the plant in operation in three or four years. The commission is proceeding as rapidly as possible with decisions on architect-engineering considerations, site selection and operating specifications. Proposals from private companies will be received until Feb. 5, 1954.

Although at present private companies are forbidden by law to own a reactor, the Administration has given its backing to proposed legislation to be considered by Congress this year which would ease the government's monopoly on atomic energy to encourage future private development of nuclear power.

Knowledge of the general characteristics of the reactor, the heart of the atomic power plant, is by no means

exclusive to this country and explains in part the eagerness of the AEC to get going on a plant here as soon as possible. At present it is believed that America is still in the forefront of the atomic energy race, but it is known that Great Britain already is building one full-scale atomic power plant and is ready to start on another, and that more than two dozen reactors have been built or are under construction in various parts of the world exclusive of Russia.

Foreign Sources Friendly

Lack of knowledge about Russia's progress in this field is responsible for the greater part of AEC's anxiety. The United States is dependent upon uranium from foreign sources and friendly nations are motivated in making supplies available because they believe in the protection afforded by our atomic weapons and in this country's record of success in solving industrial and technological problems.

As Mr. Murray put it: "They are banking on United States know-how and good faith to help them build their nuclear power plants of the future." Foreseeing a gravitation of countries toward the Soviet Union if that country were to win the nuclear power race, the AEC concluded that we must embark on an immediate nuclear power program lest we be deprived of foreign uranium ores, Mr. Murray said.

A.G.C. Firms Interested

In view of the tremendous interest in the peaceful uses of atomic energy on the part of private companies, several A.G.C. members among them, it is pertinent to inquire briefly into the general characteristics of an atomic energy plant built for the generation of electrical energy. Although they may not at present build them, several companies are familiar with the technical aspects involved, having participated in AEC study programs which produced agreement on the feasibility of the use of atomic energy as a source of heat for electrical generation.

Among these is Bechtel Corp., A.G.C., of San Francisco, which conducted a study on industrial reactors in conjunction with Pacific Gas & Electric Co. Bechtel recently joined with four other companies to form Nuclear Power Co., an organization

which has set up as its initial object the selection of a reactor design intended primarily for the production of electric power that can be built in the near future and to make a preliminary economic appraisal of such a design.

Another A.G.C. member, Walter Kidde Constructors, Inc., N. Y., and Houston, Texas, has joined with two other firms in forming the first privately financed laboratory to develop commercial applications of atomic power.

In principle the atomic power plant will generate electricity in very much the same way as a conventional power plant. Only, in place of the coal furnaces that fire the boilers in a conventional plant, the atomic plant will have heat from its reactor, brought to the boilers by means of devices known as heat exchangers. Most of the buildings in the plant will house the usual elements of a conventional plant—boilers, turbines, generators, etc.—all of standard design.

Clean and Silent


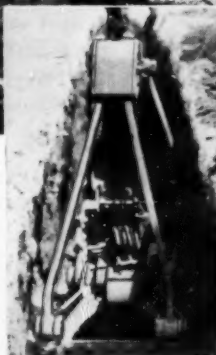
Inside one building which will be without windows and several stories in height, however, will be a concrete box with walls many feet thick and a gallery along one face. This is the radiation shield. It will contain the reactor and its accessories. From an instrument panel along the gallery, the reactor will be operated by remote control.

The big difference about the atomic power plant will be its cleanliness and silence. Docks, loaders, railroad sidings and storage dumps for huge quantities of coal will be missing. Just several hundred pounds of atomic fuel will be enough to run the plant for months. There will probably not be any smokestacks as there won't be any smoke, and, incidentally, no pollution of the air.

How about the cost of atomic fuel? Uranium 235, thanks to recent research, is now cheaper in terms of useful energy than aviation gasoline and comparable to coal at \$10 a ton. Dean John R. Dunning, of the Columbia University School of Engineering, says production efficiencies and more efficient reactors could cut the cost of fissionable material to the equivalent of "\$2 a ton or even 20 cents a ton for coal."

Even very expensive power plants would become economically feasible with the cost of atomic fuel that low.

Top notch efficiency in *DEEP DOWN SPOT DIGGING...*

Tangible, valuable features contribute to the exceptional trench excavating of

OWEN BUCKETS

Basic features include: *correctly designed shells* for easy penetration and discharge—*removable counterweights* to help force the shell into material and the block and tackle principle of multiplying closing power.

Others are *low headroom* that makes handling easy—*low center of gravity* that aids in placing the bucket when below the line of vision and *side cutters* which cut clearance for the bucket and aid in maintaining parallel trench walls.



"A mouthful at every bite"

BUCKETS AND GRAPPLES

Write for Catalog

THE OWEN BUCKET CO.

7750 Breakwater Avenue • Cleveland, Ohio

Branches: New York, Philadelphia, Chicago, Berkeley, Calif., Fort Lauderdale, Fla.

Performance

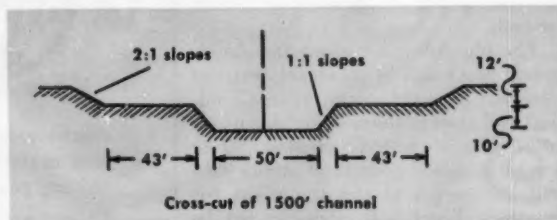
earns repeat orders for 17 years



Spreading on the run, Tournapull dumps load over 70' distance in 15 seconds. Fingertip electric controls permit operator to spread material evenly and accurately.

W. E. LOGAN & SONS, Muskogee, Oklahoma, have profitably operated LeTourneau-Westinghouse earthmoving equipment since 1936. This progressive firm bought some of the first electric-control machines and their fleet has included three 13½-yd. C Tournapulls, five 30-yd. B Tournapulls, and three bottom-dump Tournahoppers. They have now bought 2 more C Tournapulls, these with 16-yd. scrapers.

First assignment for the newer "C's" was a 350,000-yard, 7/10-mile relocation of U.S. Highway 81 near Kingfisher in central Oklahoma.



Here, the Tournapulls dug a 1500' creek channel 22' deep, with 2-to-1 slopes on the 12' sidewalls and 1-to-1 slopes on the 10' deep main channel cut into the center of the 136' wide bottom. They also filled part of the old creek bed to form base for new road. Material was mostly hard-loading sand with a little red clay.

Tournapulls move 1500 yds. per day

Time studies made on 4300' cycles show the Tournapulls averaged a round trip every 5.7 minutes. Carrying 13½ pay yards per trip, each "C" delivered 118 pay yds. in a 50-minute hour. Contractor estimates that over

LeTourneau-Westinghouse Company



Tournapull is loaded with 13 to 13½ pay yards of "dead" sand in average of 40 seconds.

the duration of the job each Tournapull averaged 1500 pay yards per day.

"C's" easy on operators

Part of this high output was due to the fingertip electric controls which lessen operator fatigue. Veteran operators declared that running the "C's" is like driving a new car. Says H. A. Bocann, "I don't think the 'C' can be beat for dirtmoving."

Tournamatic transmission, behind a single-stage torque converter, also contributed to the high-speed performance of the Tournapulls. With fingertip control of shifting quadrant, operator steps machine from one gear into next without depressing a clutch pedal or losing vital momentum. You get smooth, rapid acceleration even on steep grades and in soft going.

Find out more

Like W. E. Logan & Sons, you'll find it pays to standardize on LeTourneau-Westinghouse equipment for lowest-net-cost-per-yard. Ask your LeTourneau-Westinghouse Distributor to show you more facts and figures about how these electric-control machines can increase production and lower costs on *your* jobs.

The recent purchase by Westinghouse Air Brake Company of the earthmoving and related business of R. G. LeTourneau, Inc., combines two firms which are world leaders in their respective fields. It brings together the earthmoving know-how of LeTourneau and the precision manufacturing and research experience of Westinghouse Air Brake. You can buy from this strong new company with even greater confidence than before.

"Bottom-dumps pay for themselves on 1 job"

To help handle 4,500,000 yds. on Tenkiller Ferry Dam across the Illinois River near Gore, Oklahoma, Logan used his fleet of 8 older electric-control Tournapulls and the 3 bottom-dump C Tournahoppers. The bottom-dumps hauled conveyor-loaded sandy clay and shovel-loaded rock, dumped rock fill in coffer dam, and placed riprap on the dam face. Says Partner E. E. Logan: "Our C Tournahoppers paid for themselves on this one job. No other machine could have handled the riprap and rock work in the cutoff section without costing us too much money. LeTourneau-Westinghouse's electrical system is far superior to other power methods used to operate hauling and scraper units, with much more positive control." Bottom-dumps and scrapers are interchangeable behind same Tournapull prime-mover.



Tournapull, Tournahopper, Tournamatic—Trademark Reg. U.S. Pat. Off. P-391-H

PEORIA, ILLINOIS



A Subsidiary of Westinghouse Air Brake Company

Big Increase in Reporting Firms Shows Growing Interest in Safety

- Participating A.G.C. Members Increase 54%
- More Than 300 Report No Lost-Time Accidents

» ONE measure of the growing interest in accident prevention activities by members of The Associated General Contractors of America is the constant increase in the numbers filing their safety records with chapters and the national headquarters.

For the reporting period ending September 30, 1953, there was an increase of 54% above the previous year. These reports are tabulated on an annual basis, assigned key numbers so that no company names are revealed, and the results are made available so that companies can compare their records with others in similar kinds of work.

For the past reporting year, more than 300 contractors reported no lost-time accidents. A lost time accident is one in which the worker is unable

to report to work on his next shift.

Tabulations of the safety records have been submitted to judges who will make awards for various classifications which will be presented at the 35th annual A.G.C. convention in Los Angeles starting March 1. There will be plaques for the first place winners and certificates for the second and third place winners in the classifications for one, five and ten year periods.

Much of the credit for the past year's increase was given by H. B. Alexander, Accident Prevention Committee chairman, and Harry J. Kirk, safety manager, A.G.C. national staff, to the chapters listed below who will receive recognition for the high percentages of their members participating in the program.

Below are the chapters in the first five places of each of three groups of A.G.C. chapters:

Chapters With Over 100 Members

Name	Per Cent	Rank
Michigan Road Builders Association	92	1st
A.G.C. of Missouri . . .	82	2nd
Georgia Branch	48	3rd
A.G.C. of Minnesota . .	41	4th
Kansas Contractors Association	38	5th

Chapters With 50-100 Members

Constructors Assn. of Western Penna. . . .	90	1st
A.G.C. of W. Va.	80	2nd
Houston Chapter	75	3rd
Seattle Chapter	63	4th
Nebraska Chapter . . .	50	5th

Chapters Under 50 Members

Dallas Chapter	100	1st
Milwaukee Chapter . .	100	1st
Penna. Builders	88	2nd
Michigan Chapter . . .	69	3rd
Detroit Chapter	66	4th
Fla. West Coast Chapter	59	5th
N. Mex. Bldg. Branch	59	5th

Dallas Accidents Decline

The accident rate on construction projects in the Dallas area dropped 50% for the first half of this year, according to recent reports from a large insurance company serving the Texas city.

The firm, which writes about one-third of the total compensation risk in the state, reported that there were 384 lost-time accidents in Dallas County by its client firms for the period. This compares with 508 lost-time accidents for the comparable period last year.

This drop in accidents resulted despite the fact that the insurance company's premium income on this type of insurance had increased approximately one-third, which meant there was a greater average exposure time.

An executive of the company said that in his opinion the "greatest single factor" in the reduction of Dallas area accidents is the safety school sponsored the last two years by the A.G.C. Dallas Chapter and the Dallas County Construction Employers Association. The school was first organized in September 1952. A second session of the school was held last September and was well attended by contractors, foremen and superintendents.



What the safely dressed construction worker should wear is modeled at Carnegie Institute in Pittsburgh in an exhibit of medieval armor and modern safety equipment. The construction worker's attire was furnished by Dravo Corp. whose safety director, Gerard O. Griffin, is adjusting a life vest. Other equipment shows safety-toe shoes, protective gloves, eyeshield, skullguard. Exhibit covering many industries was arranged by Western Pennsylvania Safety Council.

Minnesota Safety Improves

The Associated General Contractors of Minnesota announced recently that member-firms taking part in the chapter's safety program last year reduced their frequency rate of accidents by 21% and their severity rate by 55%.

Allan Cederstrand, Minneapolis builder, chairman of the group's accident prevention committee, said that the highway contractors improved their severity rate by 78% over last year. This was attributed to a co-operative program initiated two years ago with state highway engineers that called for special precautions against hazards to the public on road construction sites. At present, further steps are being taken to protect the traveling public with flagmen, barricades and night lights.

Last year, over 70 Minnesota A.G.C. contractors taking part in the safety program employed 10,404 workers who totaled 17,700,079 man-hours. During this time 504 accidents occurred, including those which resulted in the loss of more than one day's work. Three of the accidents were fatal.

According to these figures, he continued, only one accident occurred for every 35,000 man-hours of construction, which included erection of commercial buildings, highways and municipal projects.

The chapter plans to make awards to the contractors with the best safety records at its annual convention January 21, in St. Paul.

Safety Dinner Meeting Held

The Constructors Association of Western Pennsylvania, A.G.C., held its fall superintendents' and foremen's dinner meeting on accident prevention in Pittsburgh, Nov. 13, with the largest attendance ever in the history of the dinner.

Superintendents and foremen, along with other company representatives, saw the new construction safety film "The Gambler" produced by the Caterpillar Tractor Co. The movie stresses some of the needless hazards in equipment operation and likens them to the senseless game of Russian roulette.

Raymond H. Hahn, personnel and safety director of the Allegheny Asphalt and Paving Co., talked briefly on enforcement of safety measures.

THE LIFT OF THE TIDE and Expert "Know-How"

Combined with ROGERS TRAILERS
IN MAKING THIS
250 TON MOVE



This dredge weighing 181 tons was drawn from a creek at Repaupo, N. J., moved $5\frac{1}{2}$ miles and launched in the Delaware River. Additional equipment, a total of 250 tons, was also moved in 20 loads.

A special ramp was built at the river, the dredge "winched" into position and the lift of the 6 foot tide used to float the dredge.

Two weeks were required for this entire operation. But the actual moving was done in one day on two Rogers 50-ton low bed trailers and two Rogers 75-ton dollies.

"KNOW HOW" based on long experience was displayed by E. A. Gallagher of Philadelphia in this unusual move. Apparently, too, they KNOW that Rogers equipment can't be beat for these difficult operations.

EXPERIENCE
Builds 'em

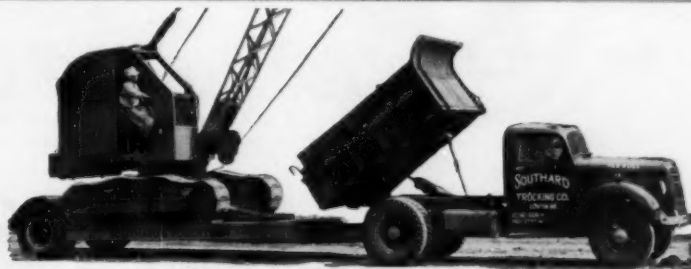


PERFORMANCE
Sells 'em

ROGERS BROS. CORP. ALBION, PENNA.

Export Office: 50 CHURCH ST., NEW YORK 7, N.Y. U.S.A.

Cable Address: BROSITES



Attaching of loaded Rogers Tagalong Trailer

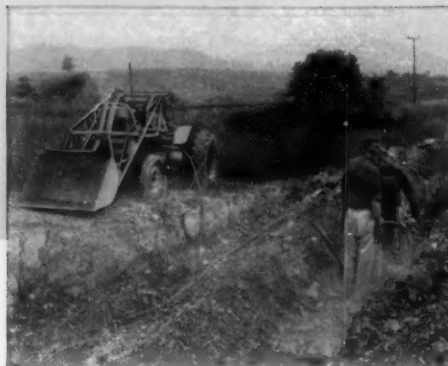
Tamping — Here's a Le Roi-CLEVELAND back-fill tamper air-powered by Tractair, that gives you faster, easier tamping, better compaction, lower costs. This example shows how Tractair teams up with Le Roi-CLEVELAND Air Tools to save time, work, money.



Cutting asphalt pavement — with a Tractair-powered Le Roi-CLEVELAND paving breaker. Note, Tractair in background is equipped with a sweeping attachment. This is just another of many ways that Tractair can save you money.



Drilling trench — Easy holding Le Roi-CLEVELAND sinkers provide the fastest way of drilling rock. The air-power source is a Tractair, equipped with a front-end loader. Tractair is extremely mobile. It has a low center of gravity. It takes money-saving air power anywhere.



LE ROI TRACTAIR

...the **10** in **1** machine that does **10** basic jobs to save you money

It holds down your investment in special equipment

Because Tractair is a combination 35-hp wheel tractor and 105-cfm air compressor, it is extremely versatile.

It lets you take air power wherever you want it — air power for drilling rock, tamping fill, breaking concrete, driving spikes and form pins, or pumping water.

When it is equipped with attach-

ments, you get added usefulness. You can load, back-fill, dig, sweep or hoist.

Although Tractair was pioneered and developed by Le Roi Company to do 10 basic jobs, its money-saving usefulness on costly, nuisance-type work is limited only by the user's imagination.

If you want to cut costs, get Tractair. Call your Le Roi dealer for a demonstration, or write us for further information.

LE ROI GIVES YOU MORE FOR YOUR MONEY

*More Utility!
More Profits!*

Loading — Tractair takes air power practically everywhere, yet it can be used for a wide variety of other jobs. Its front-end loading attachment, for example, has 8 accessories that interchange easily, so that Tractair can load, lift, back-fill, plow, etc.



Tractair with Mobildrill — Mobildrill is a lightweight wagon-drill attachment for Tractair. It gives you unusual mobility — one man can drill holes at any angle and any elevation up to 12 feet. Swinging boom permits drilling 4-6 holes of a pattern from one spot.



**Compressors
Rock Drills
Tractair
Engines ...**



LE ROI COMPANY

Milwaukee 14,
Wisconsin

A Subsidiary of Westinghouse Air Brake Co.

Plants: Milwaukee • Cleveland — Greenwich — Dunkirk, Ohio • Coldwater, Mich.

7-31

Nation-Wide Sales-Service Network

ALABAMA: Birmingham, Mobile — ARIZONA: Phoenix — ARKANSAS: Little Rock — CALIFORNIA: Bakersfield, Long Beach, Los Angeles, San Francisco — COLORADO: Denver, Grand Junction — CONNECTICUT: Hartford — FLORIDA: Jacksonville, Miami, Tampa — GEORGIA: Augusta, Decatur — IDAHO: Boise, Idaho Falls, Twin Falls — ILLINOIS: Chicago — INDIANA: Indianapolis — IOWA: Cedar Rapids, Des Moines, Waterloo — KANSAS: Great Bend, Kansas City, Pratt, Wichita — KENTUCKY: Lexington, Louisville — LOUISIANA: New Orleans, Shreveport — MAINE: Augusta — MARYLAND: Baltimore, Hyattsville — MASSACHUSETTS: Hyde Park, Newton Highlands, Worcester — MICHIGAN: Detroit, Grand Rapids — MINNESOTA: Duluth, Minneapolis — MISSISSIPPI: Jackson — MISSOURI: Joplin, St. Louis — MONTANA: Billings, Great Falls, Kalispell, Missoula — NEBRASKA: Omaha — NEW HAMPSHIRE: Manchester — NEW JERSEY:

Cranford, Kingston — NEW MEXICO: Albuquerque — NEW YORK: Albany, Binghamton, Buffalo, Long Island City, Newburgh, Rochester, Saugerties, Syracuse, Whitesboro, Woodside (L.I.) — NORTH CAROLINA: Charlotte — OHIO: Cincinnati, Cleveland, Columbus, Dayton, Toledo — OKLAHOMA: Oklahoma City, Tulsa — OREGON: Portland — PENNSYLVANIA: Bethlehem, Harrisburg, Philadelphia, Pittsburgh — RHODE ISLAND: Providence — SOUTH CAROLINA: Columbia — SOUTH DAKOTA: Rapid City, Sioux Falls — TENNESSEE: Chattanooga, Knoxville, Memphis, Nashville — TEXAS: Dallas, El Paso, Houston, Lubbock, San Antonio — UTAH: Salt Lake City — VIRGINIA: Richmond, Roanoke — WASHINGTON: Seattle, Spokane — WEST VIRGINIA: Clarksburg, South Charleston — WISCONSIN: Milwaukee — WYOMING: Casper.

GM DIESEL
CASE HISTORY No. 639-51



USER: Geo. M. Brewster & Son, Inc.,
Bogota, N. J.

INSTALLATION: Four GM Diesel-powered
Ingersoll-Rand Gyro-Flo 600
compressors supplying air for
9 I-R 71 wagon drills.

PERFORMANCE: "Completely satisfac-
tory," says operator Tom Malone.
Units shown were delivering air
to the tools through 1200 to
1600 feet of line--maintaining
steady pressure of 100 to 110 psi.

It pays to STANDARDIZE on



2400 CUBIC FEET OF AIR PER MINUTE ON NEW YORK THRUWAY ROCK CUT

Geo. M. Brewster & Son now operate a total of 18 General Motors Diesel-powered Gyro-Flo compressors, including this battery of four capable of supplying 2400 cubic feet of air per minute for rock drills on a section of the New York Thruway, near Kingston.

These modern rotary compressors take full advantage of GM Diesel's smoother-running 2-cycle operation to maintain a steady flow of nonpulsating air at 100 psi or better. And compactness of the GM 2-cycle design makes these units smaller and lighter for quick, easy movement from job to job.

This inherent engine design superiority—plus interchangeability of lower-cost parts, readily available through a world-wide GM Diesel service organization—explains why GM Diesel power is a favorite of contractors on so many jobs. Next time you order equipment, it will pay you to specify GM Diesel. Available as original or replacement power in more than 750 different models of equipment. Write us for complete list.

DETROIT DIESEL ENGINE DIVISION

GENERAL MOTORS • DETROIT 28, MICHIGAN

Single Engines . . . 16 to 275 H.P. Multiple Units . . . Up to 840 H.P.

(EDITOR'S NOTE: This article is based on the author's address to the Construction Section of the 41st Safety Congress in Chicago, October 20. It is the first of a series of five articles by speakers who stressed the three "E's" of safety—engineering, education and enforcement.)

» MUCH has been written and said about the balanced safety program that is necessary to curb the mounting toll of accidents. The three "E's"—engineering, education and enforcement—are referred to as the component parts of this program. The development of such a safety program is essential to the construction industry.

The safety problem in construction today rests not with the design but with the method of erection used by contractors. Too often the cost of a project includes lost lives, maimed bodies and destroyed or damaged property.

If contractors will realize that the same laws of forces, strengths and movements apply to each phase of construction operations as well as to the design of the structure, they will achieve safe, economical operations.

Design engineers often contribute to the accident record of the construction industry. Though planned to be safe structurally, a project may present difficult erection problems that lead to accidents involving employees and equipment. Specifications seldom provide for the safety measures that are necessary on the job. Designers can improve the industry's safety record by making the safety of operations one of their primary considerations.

Job Planning Essential

Wide acceptance and use of the established safety regulations will reduce the accident record in the construction industry, for it will be simply applying sound engineering principles to erection operations.

The first engineering principle to be applied is operational planning, which is essential to safe and economical operations. The wise contractor makes a careful study of the job before starting work. Each operation is planned in relation to the over-all project. Adequate and proper equipment is selected to handle each phase of the operations. Competent supervisors are used and they are made familiar with the operational plans. A job lay-out is drawn to

facilitate the storage of materials, and the movement of men and equipment about the job.

Subcontractors should be consulted concerning their operations and arrangements should be made to include them in the safety and operational plan. This is the best time to recognize hazards and establish measures to eliminate or control them.

The Army's Corps of Engineers considers operational plans to be so important that it requires all of its contractors to furnish detailed safety plans before work starts. Operational plans are essential. They are the contractors' initial application of engineering principles to the job.

Mechanical Laws

The second engineering principle that must be applied to construction operations is the laws of forces, strengths and movements. These laws affect construction operations in the same way that they affect the completed project.

Accidents on construction jobs often indicate ignorance of or contempt for engineering principles. Cave-ins on excavation work are common, yet excavation is necessary to almost every construction job. Wide, shallow excavations seldom offer any difficulties, but deep, narrow, ditches, or excavations next to other structures do. In such operations, care should be given to prevent a cave-in.

If space permits, the sides of the excavation can be back-sloped to remove the hazard. Should space be at a premium, shoring is mandatory. Safety regulations governing shoring should be consulted and complied with. Doing this is simply giving recognition to the fact that engineering principles are essential to safe construction.

Temporary Structures

Failure of temporary structures is one of the greatest causes of death in the construction industry. Regardless of how temporary the structure is to be, it must withstand the forces of compression, tension, shear, bending, movement, etc.

The temporary structure should be

planned before it is built. The plan may consist only of giving the carpenter foreman a rough sketch of the structure needed but it should be adequate for the purpose intended. The structure should be built of sound material, of sufficient size and strength to carry the load, with a margin of safety against failure.

After the structure has been built, it should be carefully inspected before men are permitted to ascend to the working level. After the structure is placed in service, it should be maintained in good condition and not be overloaded. Failure of such a structure is proof that engineering principles were ignored.

Accidents are usually the result of a violation of one or more natural or mechanical laws. Cranes upset because of the failure to take into account the law of gravity. Explosions and fires occur because the laws of gasses were violated.

Need More Facts

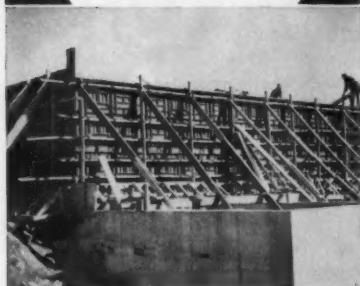
In construction safety today we do not have adequate information concerning our failures to map an effective accident control program. There are agencies that can tell us how many men were killed by falls, how many were electrocuted and how many suffered compensable injuries in a given year.

But these facts are just a starting point. We must also know: What was the worker doing when the accident occurred? What tool or agency was involved? Which safety regulation was violated? To what extent did supervision fail? Were there contributing causes? And, what was the accident background of the person involved?

We must learn much more than the frequency and severity rates of the various crafts, the companies or the jobs. The compiling of complete information about accidents is of utmost importance for it will provide data to build a sound safety program.

Listed above are some of the reasons why the application of engineering principles is essential to construction safety if the accident record is to be materially reduced.

Reduce costs and
INCREASE PROFITS
by renting these metal
forms for concrete



Economy Metal Forms save time, labor and material. They quickly lock together with a simple twist of a clamp. Standard units fit most jobs. Where needed, special forms can be fabricated to specification.

ECONOMY FORMS CORP.

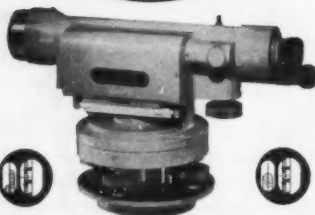
Home Office: Des Moines, Iowa
DISTRICT SALES OFFICES: Kansas City, Mo.
Omaha, Neb. • Minneapolis, Minn. • Fort Wayne, Ind.
Cincinnati, Ohio • Cleveland, Ohio • Metuchen, N. J.
Springfield, Mass. • Decatur, Ga. • Dallas, Texas
Los Angeles, Calif. • Oakland, Calif. • Denver, Colo.

ECONOMY FORMS

metal forms for concrete construction

Surveying experts favor

FENNEL
INSTRUMENTS



"NITAC" — World's only level with split bubble, erect image. One of many super-fine levels, transits, theodolites, made by Fennel's old-world craftsmen. Performance-proved in 58 countries. Send for particulars, prices.

FENNEL INSTRUMENT CORP. OF AMERICA

478 Water Street, New York 2, New York
Dealers in principal cities

ACCIDENT PREVENTION

Hard Hats Still the Best Form of Head Protection

Construction job foremen are finding more and more that the best insurance against head injuries are hard hats worn by all of the workers.

These safety helmets each year protect hundreds of men who might otherwise be seriously injured or lose their lives as the result of severe head injuries. Such head guards vary in types: some are made of lightweight metals, spun glass, and other plastics which make them waterproof, shock-proof, or heat resistant, according to the needs of the wearer.

Below are cited specific cases as to why workers should not be without their helmets on the job.

On a recent power plant construction job near Pittsburgh, Wilson Nesbitt, a boilermaker for the Eichleay Corporation, A.G.C., was standing with a group of men when a 2x10 plank 10 ft. long fell from above end-first landing between them. It toppled forward, smashing the brim of Nesbitt's plastic hat.

Mr. Nesbitt said later, "I hate to think what my nose would have looked like if I hadn't been wearing the safety hat. As it was, the jar broke a bridge in my tooth."

Impact Splits Hat

Two days later, Superintendent Ray E. Dauber had just complimented the boilermaker for wearing his hard hat and was inspecting an area below a high smokestack when a 2x12 plank 16 ft. long slipped from a scaffolding above, fell 20 ft. and struck the plastic helmet Mr. Dauber was wearing. The impact split the hat from crown to brim, an indication of what could have happened to the wearer. Had it not been for the safety helmet, Mr. Dauber would have suffered at least a fractured skull.

In another case a worker on a dam construction job owes his life to the plastic hard hat he was wearing. He was standing on a scaffold beneath a concrete pier while reinforcing rods were being moved above. All at once one of the rods nearly 4 ft. long slipped free, plunged 15 ft. and struck his helmet. The force of the blow punctured his hat and creased his scalp slightly.

Safety engineers concluded that had the worker not been wearing the protective head gear he would have been seriously injured, if not killed.



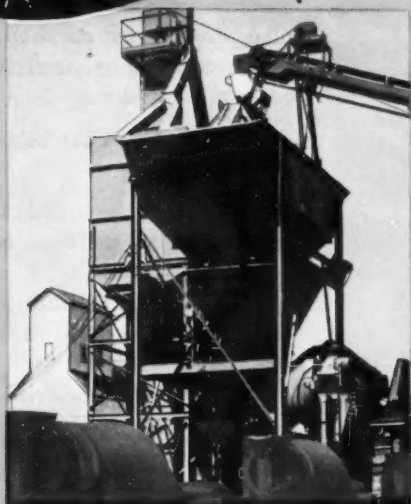
Above: Ray E. Dauber, job superintendent for Eichleay Corporation, Pittsburgh, holds up the 2 x 12 plank which fell 20 feet and struck him on the head, and (inset) shows the plastic hardhat which was split from brim to brim by the impact, but with no injury to Mr. Dauber.

Below: Wilson Nesbitt, also of the Eichleay Corporation, was protected from serious nose and face injuries when a 2 x 10 plank toppled over and struck the brim of his protective helmet.





BURMEISTER'S THE *BUY!*



WET

BURMEISTER CENTRAL MIX PLANT WITH MIXER ENGINEERED TO THE PLANT

Here's a central mix plant that's *economy engineered*. The famous Burmeister Tilt-Up Mixer actually reduces plant height. This increases portability, lowers power requirements, means fewer buckets, shorter belts and boom for crane loading . . . substantial savings for the ready-mix operator. Mixers are available in 3, 4, 5, and 6 cu. yd. capacity; aggregate and cement bins, any capacity. Burmeister mixers are acknowledged as the most advanced in engineering for four important reasons: (1) their exclusive space-saving tilt-up discharge; (2) twin drive; (3) scientific "two-fold" action; and (4) hydraulic tilting mechanism.



DRY

BURMEISTER DRY-BATCH PLANTS FEATURE EXTREME PORTABILITY AND FLEXIBILITY

When you start with a Burmeister dry batch plant you enjoy a minimum initial investment and low erection and operating costs because of their simplified construction. You'll find you get fast, accurate batching. Standard equipment includes a large-capacity cement elevator. Other design features include: elevator drive mounted on head on large machinery platform; use of toggle clamps instead of cover bolts speeds disassembly at screw conveyors. Later, you can add a Tilt-Up Mixer that's engineered to the plant . . . your assurance of maximum efficiency, minimum cost.

L. BURMEISTER CO., 4527 W. MITCHELL ST., MILWAUKEE, WIS.



Burmeister

COMPLETE PLANTS FROM A SINGLE SOURCE

Mail Coupon for Complete Details!

L. Burmeister Company
4527 W. Mitchell Street
Milwaukee, Wisconsin

- ☐ Please send me your complete catalog.
I am particularly interested in more information about ☐ wet ☐ dry plant operation.
☐ Please ask your representative to call on me.

Name _____

Company _____

Address _____

City _____ State _____



Harmony Blue Granite Company increases drilling speed 50% with TIMKEN® carbide insert bits!

**CARBIDE INSERT?
or
MULTI-USE?**

LOCATION: Elberton, Georgia.

OPERATING CONDITIONS: Channel drilling for dimension stone used for granite monuments.

HARMONY Blue Granite Company increased drilling speed 50%, cut drill steel requirements and attained maximum production by switching to Timken® carbide insert bits.

Ideal for high speed drilling through hard and abrasive ground, Timken carbide insert bits have also proved most economical for constant-gage holes, small diameter blast holes and very deep holes.

Yet carbide insert bits aren't best for *every* job!

For ordinary ground, for instance, Timken multi-use bits are most economical. With correct and controlled reconditioning, they'll give you the lowest cost per foot of hole when full increments of steel can be drilled.

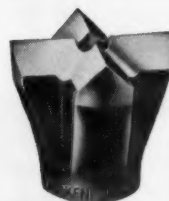
Both Timken bit types—multi-use and carbide insert—have these advantages: quickly and easily changed; special shoulder unions which protect threads from drilling impact, and made from electric furnace Timken fine alloy steel. What's more, many sizes of Timken carbide insert and multi-use bits fit the same steel!

Want to make sure you're using the best type bit for the job? Call on the Timken Rock Bit Engineering Service. Our address: The Timken Roller Bearing Company, Rock Bit Division, Canton 6, Ohio. Cable address: "TIMROSCO".

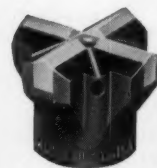
TIMKEN

TRADE-MARK REG. U. S. PAT. OFF.

**your best bet for the
best bit...for every job**



Timken threaded
multi-use rock bit



Timken threaded
carbide insert rock bit

» THE CAROLINAS Branch of The Associated General Contractors of America held its 33rd annual meeting Nov. 8-10 at The Homestead, Hot Springs, Va., with over 450 members, associate members and their guests attending.

National association officers led a group of speakers who brought the members up to date on federal and state legislation, accident prevention, apprentice training, and labor relations as they affect today's construction picture.

National A.G.C. President C. P. Street, Charlotte, and Executive Director J. D. Marshall, of Washington, D. C., addressed the convention on matters of national importance. Mr. Marshall outlined the work of the association's administrative committees, its service and promotional committees and the many joint cooperative committees with other organizations in the industry.

Joint Committees Reviewed

Welton A. Snow, manager of the association's Building Division, Washington, D. C., reviewed the work of the joint cooperative committees maintained by the A.G.C. with the American Institute of Architects and the Producers' Council.

Archie N. Carter, manager of the A.G.C.'s Highway Division, Washington, D. C., called for more federal aid to airports as a national defense measure. He reported the stand taken at a recent convention of the American Association of State Aviation Officials which called for major changes in the Federal Airport Act to make the law more "workable and effective."

He also reported a 10% increase in highway construction in 1954 over last year's volume of \$3.14 billion. Of the federal-aid share of this figure, Mr. Carter said, nearly 99% of it would go into highway construction by contract.

South's Construction High

William E. Dunn, Washington, D. C., manager of the A.G.C. labor relations, cited changes in the National Labor Relations Board and the Labor Department since the change in administrations. He also said that the expanding industry and population in the South were healthy signs for a continued high rate of construction activity—especially in highways, stores, hospitals and schools.

General Eugene Reybold, executive

Carolinas Branch Meets; Elects Officers

• President Street, Other Officials Address 33rd Convention



Officers for the Carolinas Branch shown together at the 1953 convention in Hot Springs, Va., are left to right: Vice President A. J. Fox, Raleigh; President G. E. Moore, Greenwood, S. C.; Director E. J. Kratt, Charlotte; Managing Director Robert Patten, Charlotte; Retiring President M. R. Cowper, Kinston, N. C.; and Director Frank P. Morris, Greenville, S. C.

vice president of the American Road Builders Association, and former wartime chief of the Corps of Engineers, addressed the meeting and called for a 10-year expanded federal-aid highway program.

Retiring President Marion Cowper, Barrus Construction Co., Kinston, N. C., in reviewing the progress of construction in the Carolinas in recent years, said that industry and commerce are finding the weather, natural resources, and the stable conservative people of the two states "excellent drawing cards" in the search for new plant sites.

Chapter's Activities

Managing Director Robert Patten and S. C. Austin, manager of the chapter's highway and heavy divisions, made reports of the activities and operations of the chapter during 1953.

Accident prevention record of the chapter improved over 1953, according to a report by safety committee chairmen Irwin Kahn and James E. Cox. They also presented awards to winners of the chapter's safety contest last year.

Other topics taken up at the convention were apprentice training, and improved relations between general and subcontractors.

G. E. Moore, G. E. Moore Co., Greenwood, S. C., was elected presi-



Executive Director Marshall

dent for the new year, succeeding Mr. Cowper. Other officers elected were A. J. Fox, F. N. Thompson, Inc., Raleigh, vice president; and Earle Whitton, Southeastern Construction Co., Charlotte, treasurer. Robert Patten continues as managing director.

Directors for 1954 are: R. A. Bryan, Goldsboro, N. C.; Jesse M. Coble, Greensboro, N. C.; Roy E. Geise, Sumter, S. C.; John H. Graham, Cleveland, N. C.; Irwin Kahn, Columbia, S. C.; E. J. Kratt, Charlotte; Frank P. Morris, Greenville, S. C.; and W. E. Tulluck, Orangeburg, S. C.

Texas A.G.C. Group Plans Bid Clearinghouse

- Would Coordinate Dates, Assure Maximum Number of Bidders



National A.G.C. President C. P. Street, Charlotte, shown sporting new Stetson presented to him by the Texas A.G.C. Council at its recent meeting in Austin. With Mr. Street are John Broad, retiring president of Austin Chapter, on left; F. W. Heldenfels, Jr., retiring council chairman, second left; and J. R. Murphy, president of Fort Worth Chapter and new council chairman, on right.

» THE TEXAS A.G.C. Executives' Council, at its fall meeting in Austin, Nov. 29-30, authorized the Municipal Contractors Association of Dallas to set up a clearinghouse to coordinate bid-letting dates within the state to assure a maximum number of contractors bidding on a given job.

The action was taken at the request of the Texas section of the American Society of Civil Engineers which

claimed that such an organization would be particularly useful in coordinating dates for bidding on public works projects. Under this new set-up, public works projects of a similar nature would be let on different dates, whenever possible, assuring a large number of bids for the job. This would prevent contractors bidding on a job in one part of the state from missing out on bidding for another job

somewhere else in the state on the same day.

Operation of the clearinghouse would be carried out jointly by A.G.C. and A.S.C.E. representatives.

National A.G.C. President C. P. Street, while on his tour of Western chapters, attended the council meeting and predicted that 1954 would see only a slight decline in the total volume of construction put in place.

He also reported progress being made in getting legislation passed by Congress to grant judicial review of administrative decisions by federal officials concerning disputes over government construction work.

It was voted by the council to reduce the number of regular meetings from four to two each year, one of which would be held at a state convention of A.G.C. chapters. Upon the invitation of F. S. Oldt, of the Municipal Contractors Association, the council voted to hold the first statewide A.G.C. convention in Dallas sometime in December, 1954. The Municipal Contractors Association will be the host chapter with Mr. Oldt convention chairman.

J. R. Murphy, president of the Fort Worth Chapter, was elected chairman of the council for 1954. Mr. Murphy succeeded F. W. Heldenfels, Corpus Christi, of the Texas Highway Branch. Other officers include C. L. Cox, South Texas Chapter, vice chairman; R. B. Dunbar, manager of the Fort Worth Chapter, secretary; and Curtis Bell, managing director of the South Texas Chapter, vice secretary.

West Kentucky Group Holds First Meeting



New officers of the A.G.C. of Western Kentucky shown together left to right: Edgar Stephens, Cairo, Ill., vice president; Hal T. Wright, Mayfield, director; Jack P. Kerr, Paducah, re-elected president; and J. R. Shephard, Hopkinsville, R. T. Durrett, Madisonville, and Ray Black, Paducah, all directors.

» THE A.G.C. of Western Kentucky, one of the association's newest chapters, held its annual dinner meeting Dec. 9 in Paducah and discussed chapter activities for the past six months, announced its objectives for 1954, and installed officers for the new year.

H. L. Gangnath, secretary-manager of the chapter, reported the group's activities since it was presented its A.G.C. charter July 16 by the national association's president, C. P. Street, McDevitt and Street, Charlotte, N. C.

Jack P. Kerr, John Cassidy Construction Co., Paducah, who was re-elected president for this year, outlined the following 8-point plan of the chapter's objectives for 1954:

- 1) Construction of office and plans room in Paducah.

(Continued on page 75)



Foundation Borer mounted on Gar Wood 75B crane.

New Foundation Borer Digs 397 Footings on Philadelphia Job!

Buckley & Co., Inc., Philadelphia contractors, are using a new Gar Wood foundation borer attachment to make unusually rapid progress on a contract to dig 397 footings for the new Eastern Pennsylvania Psychiatric Institute.

Jack Buckley, Jr., superintendent on the job, says, "This new machine is getting the job done 8 to 10 times faster than we've been able to do before. The independent controls make the machine extremely maneuverable and it certainly meets our needs for a fast, smooth-operating borer."

Working on a sub-contract from Turner Construction Co., the Buckley organization is boring down as deep as 55 ft. with the holes from 36 to 54 inches in diameter.

A regular Gar Wood model 75B crane with 85 ft. boom is fitted with the foundation boring attachment using a 70 ft. stem. Operating speed has averaged about 1 ft. per minute.

Gar Wood's exclusive factory installed foundation borer attachment is completely convertible . . . Shown above mounted on a Gar Wood model 75B crane, it can be just as easily used with the 75BT truck crane or the standard 75A crane.

It can be utilized on a wide variety of applications including foundations, piers, caissons, piles, footers, ballast holes, buried tanks, wells, wall supports, soil borings, septic tanks, strata samplings, dikes and shores, and harbor and river improvements.

All four basic types of borings—straight flat, caissoned, bell bottom and multiple taper—can be quickly and easily handled without adjustments.

The cutting edges and belling vanes are hydraulically operated while bucket is driven by a positive chain drive . . . Only Gar Wood offers this new, profit making attachment—the only heavy-duty tool available for constructing the new unreinforced foundation footings.

The Gar Wood line of excavators includes both standard and heavy-duty cranes, shovels, trench hoes, clamshells, pile drivers and magnets with a heavy-duty truck crane also available.

Gar Wood also manufactures a complete line of bulldozers with both hydraulic and cable operation for every model of A-C tractors. Also the famous line of Buckeye ditchers, spreaders and finegraders.



Close-up shows the smooth cut possible with a Gar Wood foundation boring attachment . . . When maximum desired depth is reached, vanes on bucket can be opened to bell out the bottom of the hole to a maximum diameter of 90 inches . . . This feature allows the hole boring and belling to be combined into one easy production line operation . . . Bucket is placed in operation with a rotating motion to load. When full it is lifted out of hole, vanes on bucket are opened to permit dumping. The entire operating cycle is completely mechanical.

GAR WOOD INDUSTRIES, INC.

FINDLAY DIVISION • EXECUTIVE OFFICES • WAYNE, MICHIGAN

Construction Equipment: Excavators, Dozers, Ditchers, Scrapers, Spreaders, Finegraders. Truck Equipment: Dump Truck Bodies & Hoists, Winches & Cranes.



Your **P&H** dealer

Not for years has there been such an important announcement to shovel users! It's the new, lower prices on P&H machines — the most advanced,

Ask him about . . .



MODEL 55 MITI-MITE

7-ton capacity as a crane.

The simplest, huskiest little truck crane ever built! Power box transmission reduces usual maintenance worries to a simple oil change twice a year! Fully convertible: 11 cu. ft. capacity as shovel, dragline, etc. Here's more production ability . . . to earn more money for you . . . and prices which can't be beaten in the industry.

MODEL 105 10-ton capacity.

Offered on its own P&H-built carrier. The Model 105 is the most powerful, most rugged of all small truck cranes — and offers the largest capacity. Fully convertible . . . and loaded with modern refinements which make it a more versatile money earner on a wider range of jobs.



has big news for you!

finest-performing power shovels and cranes ever built!

P&H's growing volume — larger production — make possible these

sweeping cost reductions. Your P&H dealer has full details on the size and type of machine you need. See your nearest P&H dealer, now!

the features, the values, the prices!

Compare P&H's advanced features with everything on the market — for easy operation, for ruggedness, for low maintenance costs. Think of P&H's greater stability that lets you make more effective use of engine power — that lets you put "more on the hook" with less danger of tipping. These are some of the features that give you greater work capacity — more earning power. P&H performance is far ahead of those with 15 and 20 year old hold-over designs.

Yes, P&H gives you the features — and the new low prices that mean greater values. Here's the sound investment that pays off faster . . . puts more money in your pocket, sooner. Prove it to yourself! See your nearest P&H dealer for full details and prices.

P&H POWER SHOVELS AND CRANES

**HARNISCHFEGER
CORPORATION**

Milwaukee 46, Wisconsin



*See your **P&H** dealer . . . today!*

Your P&H Dealer has the experience, the organization and the facilities to serve you reliably in every way. He's ready to deliver the kind of on-the-ground service that keeps every P&H job moving on schedule. Your P&H Dealer is tops in the business.



MODEL 255-A $\frac{3}{4}$ yd. capacity.

A great machine made even greater with 22 design advancements. It's another remarkable example of advanced design, modern engineering and outstanding features at prices no higher than old, hold-over designs. Many standard P&H items are "extras" on other machines!

Warehouses and Service Stations: MILWAUKEE, TETERBORO, BIRMINGHAM, DALLAS, LOS ANGELES, SEATTLE

V-LOK - the Completely Versatile Steel Framing

INTERLOCKING STRUCTURAL
MEMBERS SPEED ERECTION



**"Stores, Warehouses,
Schools, Factories —**

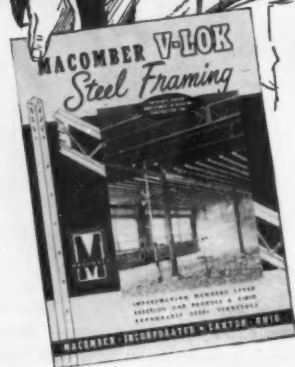
YOU NAME IT — I'LL BUILD IT — WITH V-LOK!"

Macomber V-LOK Steel Framing—made in standard bay sizes—designs readily into almost any one-story structure.

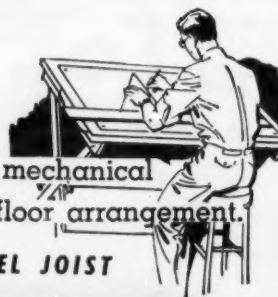
With bays—20 by 20, 20 by 30 and 20 by 40 feet—a project can be quickly laid out for industrial or store areas, super-markets or commercial garages, classroom or warehouse facilities.

This versatility plus fast erection lowers both design and erection time for the owner.

Write for V-LOK Catalog. It has many helpful suggestions.



Complete freedom for architectural finish, mechanical layouts and floor arrangement.



ORIGINATORS OF THE

OPEN WEB STEEL JOIST

STANDARDIZED STEEL
V BAR JOISTS • LONGSPANS

BUILDING PRODUCTS
STEEL TRUSSES • STEEL DECK

MACOMBER INCORPORATED

CANTON 1, OHIO

• ENGINEERING • FABRICATING AND ERECTING •

» **HIGHWAY** construction outlook for general contractors in Illinois is bright for this coming year, according to reports by Gov. William G. Stratton and Chairman Evan Howell of the state's toll roads commission, to the 47th convention of the Associated General Contractors of Illinois.

Meeting in Springfield Dec. 7-8, some 600 contractors and their guests heard Gov. Stratton announce a record-breaking \$84.5 million road building program for 1954. He added that the planned program will set a new record in the state's highway construction for the third year in a row.

Chairman Howell, former Congressman and U. S. Court of Claims judge, discussed likely sites for possible Illinois toll roads linking with those planned or being built by neighboring states. He said that a St. Louis-Chicago highway following generally Route 66 is the "greatest possibility" for a toll road.

Other possibilities he mentioned included toll roads from the Davenport-Rock Island area to Chicago; Indianapolis to St. Louis; south of Chicago

Illinois Highway Picture Bright in 1954

• A.G.C. Chapter Hears Governor, Toll Roads Chief Report

along the Indiana line; and through or around Chicago linking Indiana and Wisconsin. The need for a Chicago area toll road is critical because of the development of plans for completing the Indiana turnpike designed to link Midwest and Eastern turnpike systems, he added.

During the first 11 months of 1953, Gov. Stratton said that the state completed \$76 million in road construction, which was \$5 million more than was spent in 1952 and \$29 million better than the previous record high of 1948.

Gov. Stratton added that further work is being rushed to widen Route 66 into a 4-lane super highway. By the end of 1954, he said, the state hopes to complete 150 miles between Chenoa and Mt. Olive.

Other highlights of the 1954 program include 472 miles of highway jobs; construction of 71 new bridges, widening 37 others and building 20 grade separations; a \$13-million expressway in Cook County; acquiring 1,000 miles of rights-of-way for the 1954-55 construction schedule; and the establishment of an emergency fund for disaster work, railroad grade separations and isolated bridges.

The delegates also heard George M. Schmeltzer, Harrisburg, Pa., executive director of the Pennsylvania Builders' Chapter, A.G.C., discuss accident prevention in construction

which, he said, must start with top management. He urged the A.G.C. of Illinois to set up a program to promote safety through contests, posters and monthly publicity reports.

Congressman Dewey Short (R-Mo.), spoke to the meeting on a "Practical National Defense."

Resolutions Passed

Resolutions passed by the convention included the following, that:

1) The federal government assume its proper responsibility for the nation's highway needs by increasing federal-aid returns to the states of not less than the total amount of funds collected in taxes from highway users.

2) The federal-aid highway program be administered through the present channels.

3) There should be no diversion to other purposes of tax funds collected from highway users by any unit of government.

New officers for 1954 were installed as follows: Gene W. Gunther, H. H. Gunther Construction Co., Galesburg, president, succeeding Orville Shelato, McCalman Construction Co., Danville; C. J. Moritz, highway-heavy contractor from Effingham, vice president; and T. H. Joyce, Jr., Joyce Brothers Construction Co., Springfield, re-elected secretary-treasurer. Milo P. Flickinger, Springfield, continues as executive secretary.

(Continued from page 70)

2) Establishment of plans room in Bowling Green and another one to be established later in the area.

3) Work for apprenticeship programs throughout the area.

4) Try for a minimum of 35 active and 150 associate members by the end of 1954. On Dec. 15 the chapter had a total of 21 active members.

5) Establishment of equitable relations between management and labor, and work for the role of management spokesman in labor negotiations.

6) Begin a safety program with awards to be presented to active and associate members with best records.

7) Initiate a public relations program to establish the A.G.C. as a leader in the construction industry.

8) Set up a minimum of four associate member meetings and two full membership meetings in addition to sectional meetings when desirable.

In addition to Mr. Kerr and Mr. Gangnath, the following officers elected for 1954 were: Edgar Stephens, Edgar Stephens Construction Co., Cairo, Ill., vice president; and Hal T. Wright, Ralph Wright and Son, Mayfield; J. R. Shephard, Kirkpatrick Construction Corp., Hopkinsville; R. T. Durrett, Ruby Construction Co., Inc., Madisonville; and Ray Black, Ray Black and Son, Paducah, all directors.



At installation of new officers of the A.G.C. of Illinois the following are shown, left to right: seated—Orville Shelato, retiring president; Gene W. Gunther, president; C. J. Moritz, vice president; T. H. Joyce, secretary-treasurer; and Milo P. Flickinger, executive secretary. Standing—all new directors, J. P. Weatherby, William S. Howard, H. W. Hartmann, C. W. Josephson, E. T. Simmonds; and retiring directors, George Albright, Clay V. Hoskins, and J. F. Gallagher.

V-LOK — the Completely Versatile Steel Framing

INTERLOCKING STRUCTURAL
MEMBERS SPEED ERECTION



**"Stores, Warehouses,
Schools, Factories —**

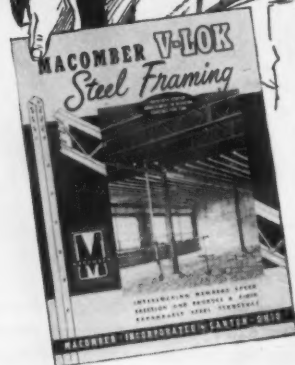
YOU NAME IT — I'LL BUILD IT — WITH V-LOK!"

Macomber V-LOK Steel Framing—made in standard bay sizes—designs readily into almost any one-story structure.

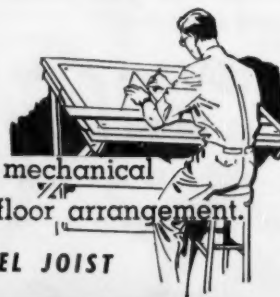
With bays—20 by 20, 20 by 30 and 20 by 40 feet—a project can be quickly laid out for industrial or store areas, supermarkets or commercial garages, classroom or warehouse facilities.

This versatility plus fast erection lowers both design and erection time for the owner.

Write for V-LOK Catalog. It has many helpful suggestions.



Complete freedom for architectural finish, mechanical layouts and floor arrangement.



ORIGINATORS OF THE

OPEN WEB STEEL JOIST

STANDARDIZED STEEL
V BAR JOISTS • LONGSPANS



BUILDING PRODUCTS
STEEL TRUSSES • STEEL DECK

MACOMBER INCORPORATED

CANTON 1, OHIO

• ENGINEERING • FABRICATING AND ERECTING •

» **HIGHWAY** construction outlook for general contractors in Illinois is bright for this coming year, according to reports by Gov. William G. Stratton and Chairman Evan Howell of the state's toll roads commission, to the 47th convention of the Associated General Contractors of Illinois.

Meeting in Springfield Dec. 7-8, some 600 contractors and their guests heard Gov. Stratton announce a record-breaking \$84.5 million road building program for 1954. He added that the planned program will set a new record in the state's highway construction for the third year in a row.

Chairman Howell, former Congressman and U. S. Court of Claims judge, discussed likely sites for possible Illinois toll roads linking with those planned or being built by neighboring states. He said that a St. Louis-Chicago highway following generally Route 66 is the "greatest possibility" for a toll road.

Other possibilities he mentioned included toll roads from the Davenport-Rock Island area to Chicago; Indianapolis to St. Louis; south of Chicago

Illinois Highway Picture Bright in 1954

• A.G.C. Chapter Hears Governor, Toll Roads Chief Report

along the Indiana line; and through or around Chicago linking Indiana and Wisconsin. The need for a Chicago area toll road is critical because of the development of plans for completing the Indiana turnpike designed to link Midwest and Eastern turnpike systems, he added.

During the first 11 months of 1953, Gov. Stratton said that the state completed \$76 million in road construction, which was \$5 million more than was spent in 1952 and \$29 million better than the previous record high of 1948.

Gov. Stratton added that further work is being rushed to widen Route 66 into a 4-lane super highway. By the end of 1954, he said, the state hopes to complete 150 miles between Chenoa and Mt. Olive.

Other highlights of the 1954 program include 472 miles of highway jobs; construction of 71 new bridges, widening 37 others and building 20 grade separations; a \$13-million expressway in Cook County; acquiring 1,000 miles of rights-of-way for the 1954-55 construction schedule; and the establishment of an emergency fund for disaster work, railroad grade separations and isolated bridges.

The delegates also heard George M. Schmeltzer, Harrisburg, Pa., executive director of the Pennsylvania Builders' Chapter, A.G.C., discuss accident prevention in construction

which, he said, must start with top management. He urged the A.G.C. of Illinois to set up a program to promote safety through contests, posters and monthly publicity reports.

Congressman Dewey Short (R-Mo.), spoke to the meeting on a "Practical National Defense."

Resolutions Passed

Resolutions passed by the convention included the following, that:

1) The federal government assume its proper responsibility for the nation's highway needs by increasing federal-aid returns to the states of not less than the total amount of funds collected in taxes from highway users.

2) The federal-aid highway program be administered through the present channels.

3) There should be no diversion to other purposes of tax funds collected from highway users by any unit of government.

New officers for 1954 were installed as follows: Gene W. Gunther, H. H. Gunther Construction Co., Galesburg, president, succeeding Orville Shelato, McCalman Construction Co., Danville; C. J. Moritz, highway-heavy contractor from Effingham, vice president; and T. H. Joyce, Jr., Joyce Brothers Construction Co., Springfield, re-elected secretary-treasurer. Milo P. Flickinger, Springfield, continues as executive secretary.

(Continued from page 70)

2) Establishment of plans room in Bowling Green and another one to be established later in the area.

3) Work for apprenticeship programs throughout the area.

4) Try for a minimum of 35 active and 150 associate members by the end of 1954. On Dec. 15 the chapter had a total of 21 active members.

5) Establishment of equitable relations between management and labor, and work for the role of management spokesman in labor negotiations.

6) Begin a safety program with awards to be presented to active and associate members with best records.

7) Initiate a public relations program to establish the A.G.C. as a leader in the construction industry.

8) Set up a minimum of four associate member meetings and two full membership meetings in addition to sectional meetings when desirable.

In addition to Mr. Kerr and Mr. Gangnath, the following officers elected for 1954 were: Edgar Stephens, Edgar Stephens Construction Co., Cairo, Ill., vice president; and Hal T. Wright, Ralph Wright and Son, Mayfield; J. R. Shephard, Kirkpatrick Construction Corp., Hopkinsville; R. T. Durrett, Ruby Construction Co., Inc., Madisonville; and Ray Black, Ray Black and Son, Paducah, all directors.



At installation of new officers of the A.G.C. of Illinois the following are shown, left to right: seated—Orville Shelato, retiring president; Gene W. Gunther, president; C. J. Moritz, vice president; T. H. Joyce, secretary-treasurer; and Milo P. Flickinger, executive secretary. Standing—all new directors, J. P. Weatherby, William S. Howard, H. W. Hartmann, C. W. Josephson, E. T. Simmonds; and retiring directors, George Albright, Clay V. Hoskins, and J. F. Gallagher.

when it
comes to
CONTRACT
BONDS
take the time
to COMPARE

Certainly, you didn't buy your heavy equipment before comparing brands and prices.

Certainly, there were important differences, tailor-made to your needs, in the equipment you finally selected.

Same with contract bonds. Look around carefully before you select.

When you do, we think you'll find our preferred rates will leave you substantial room to underbid your competitors... and we *know* you'll find our service fastest, and our financial strength capable of handling the biggest jobs.

A 136-year history of outstanding insurance protection is yours for extra confidence.

HEAD OFFICES: 401 Walnut St., Philadelphia 6, Penna. Branches in Atlanta, Chicago, Dallas, New York, San Francisco, Toronto. Claims and Settling Agents throughout the world.



PROPERTY AND CASUALTY
INSURANCE—SURETY BONDS

CHAPTERS • BRANCHES

Colorado Builders Elect Meyer President



Newly-elected officers of the Colorado Building Branch shown at the group's annual meeting in Denver, December 1. Left to right: Walter L. Meyer, treasurer; William S. Hibberd, re-elected secretary-manager; Nicholas R. Petry, president; Keppel Brierly, vice president; and David A. Olson, secretary. Retiring President Gerald H. Philpps cited the increasing prestige and influence of the organization in the Denver area and made several recommendations for expansion and progress.

California Expects Big Public Works Volume

» CALIFORNIA stands on the threshold of its largest public works program in history, Frank B. Durkee, director of state public works, told the 35th annual convention of the Northern California A.G.C. Chapter in San Francisco early last month.

There are currently \$84 million outstanding in fiscal 1954 contracts with another \$15 million in contracts to be let. On the state drawing boards there is another \$40 million worth of work, he told the meeting.

Other expenditures planned for

1954 include \$250 million for schools and \$181 million for highways. In the planning stage is the Feather River project, estimated to cost \$1 billion dollars, Mr. Durkee added.

Good Year Ahead

Delegates to the meeting were welcomed by retiring President Dallas Young, followed by Chapter Manager Winfield H. Arata, who predicted a good year for the chapter in 1954.

J. R. Mitsch, labor relations director, reported activities of the joint



Officers elected by the Northern California Chapter are, left to right, Gordon Pollock, treasurer; Ernest L. Clements, vice president; and H. C. Maginn, president.

labor committee of the Northern and Central California A.G.C. Chapters.

Martin E. Segal, group welfare consultant, told the contractors that they could be proud of the success of welfare plans established for the five major construction crafts.

South Pacific Division Engineer Col. Paul D. Berrigan, with offices in San Francisco, told the meeting that despite the current economy cuts, the Corps expects no important change in its 1954 fiscal program. Funds are available for all work planned for the rest of the year.

Following the meeting on Dec. 7, the newly installed directors met and elected the following officers for 1954: H. C. Maginn, Calaveras Cement Co., president; E. L. Clements, Clements and Co., Hayward, vice-president; and Gordon Pollock, George Pollock Co., Sacramento, treasurer.

Incoming board members include William Smith, Felix Siri and Edward Jones of San Francisco; Jack Burk, Oakland; U. B. Lee, San Leandro; Gordon Ball, Berkeley; William Rapp, Santa Rosa; Ralph Brown, Eureka; Charles Steward, Fresno; John Delphia, Patterson; and Peter Schoenigh, Sacramento.

Dallas Chapter Meeting

J. Leo Norton, Miller & Norton, was elected president of the Dallas Chapter, A.G.C. at the chapter's annual meeting at the Dallas Athletic Club, December 1. He succeeds

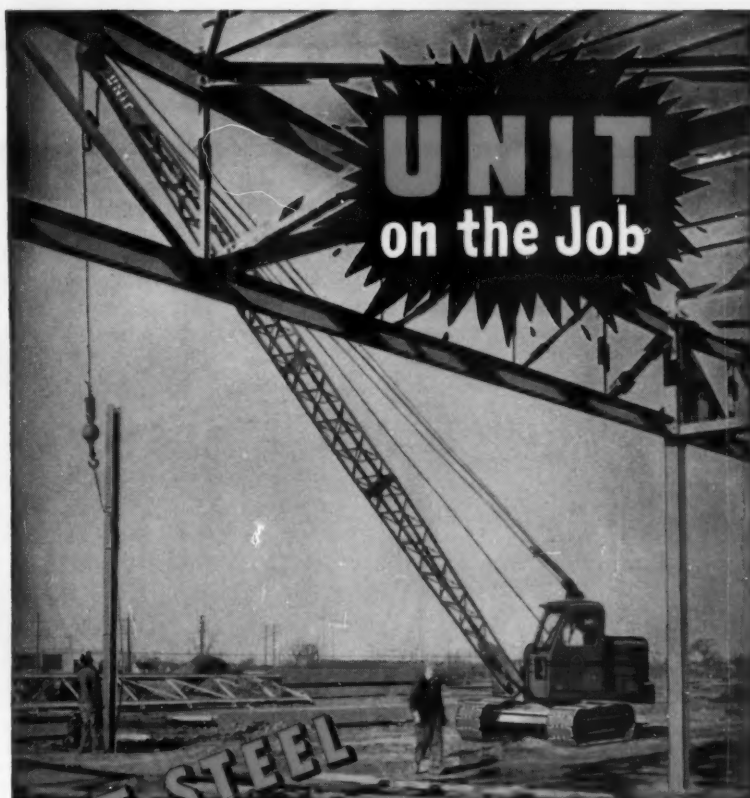


Mr. Norton

Charles A. Vilbig, of Vilbig Brothers, Inc., who as president last year saw the chapter achieve progress in apprentice training, accident prevention and the development of harmonious relationships with other industry groups, including insurance carriers, the architects, and building trades unions.

Other officers elected for 1954 included W. M. Vivrett, Jr., of Vivrett & Vivrett, vice president, and F. K. Buckner, of Buckner & Pittman, secretary-treasurer. Managing director of the Chapter is Julian Capers, Jr.

New directors included Mr. Vilbig; Claude Bernecke, J. W. Bateson Co.; Hal C. Dyer; and Charles Meers, Meers Construction Co.



SET STEEL - Easy and Fast with **UNIT**

Lifting, carrying and spotting steel girders into the exact position requires STABILITY — FLEXIBILITY and PERFECT CONTROL. A UNIT Crane gives you all these features . . . and more. Extra Long Crawlers — Multiple Hinged Shoes — Wide Axles and Hook Rollers provide perfect stability. Smooth accurate control of boom and hoist lines permits precision handling. UNIT'S FULL VISION CAB gives the operator excellent visibility . . . makes steel setting jobs easier and faster. UNIT equipment can be quickly and easily converted to handle a wide variety of work. To speed up your steel construction, investigate UNIT. Write for literature.

UNIT CRANE & SHOVEL CORPORATION

6307 WEST BURNHAM STREET • MILWAUKEE 14, WISCONSIN, U. S. A.



1/2 or 3/4 YARD EXCAVATORS... CRANES UP TO 20 TONS CAPACITY
CRAWLER OR MOBILE MODELS . . . GASOLINE OR DIESEL



All Models Convertible to ALL Attachments!

Municipal Contractors Ask Texas Water Policy

- Urge Cessation of Federal Competition; Elect L. H. Durst

» A RESOLUTION petitioning Gov. Allan Shivers to strive for an over-all state water policy without regard to special interests was adopted by the

Municipal Contractors Association at its annual meeting in Dallas early last month.

The resolution also asked for legislation to carry out the water program on a state basis without surrendering rights of the state to the federal government by accepting federal funds, and called for end of competition between federal bureaus on water programs.

New Officers

New officers elected were L. H. Durst, Houston, president, to succeed A. J. McKenzie, Jr., San Antonio; R. D. Whittle, vice president; and H. (Cap) Larsen, secretary-treasurer, Dallas. R. M. Dixon is managing director.

Optimistic forecasts on municipal and highway construction were made by Dr. Arthur A. Smith, vice president of the First National Bank in Dallas, and by J. M. Sprouse, A.G.C. national staff. Jewelled pins were given to past presidents McKenzie, F. S. Oldt, J. G. Bartholomew, and E. W. Sherman.



Board of Directors of Municipal Contractors Association are, left to right, front row: J. G. Bartholomew; F. S. Oldt; J. C. Truchart; R. D. Whittle, vice president; Gerald Moral; William Gill, Jr., and S. C. Clark; back row: Raymond Wise; R. M. Dixon, managing director; H. (Cap) Larsen, secretary-treasurer; L. H. Durst, president; William P. Glade; and A. J. McKenzie, Jr., retiring president.



BIN BATCHER-MIXERS

An Unbeatable Combination

Whether used for charging an individual 115 or 165 Mixer, or a pair as shown, a Bin-Batcher is the short cut to profit. Enables you to take the advantages of a central plant right onto any job. Several models. Ask for details.

- PORTABLE
- SAVES LABOR
- CUTS COSTS

CONSTRUCTION MACHINERY COMPANIES Waterloo, Ia.

» A MONTHLY, cumulative list of annual meetings scheduled by chapters and branches of The Associated General Contractors of America, as reported to THE CONSTRUCTOR:

Jan. 15. Alabama Branch. Birmingham. Tutwiler Hotel.

Jan. 15. Mountain Pacific Chapter. Seattle. Benjamin Franklin Hotel.

Jan. 16. Oklahoma Chapter (Builders Division). Oklahoma City. Skirvin Hotel.

Jan. 20. Louisville Chapter. Louisville. Chapter Building.

Jan. 21. Detroit Chapter. Detroit. Detroit Athletic Club.

Jan. 21. Contractors Association of Philadelphia and Eastern Pennsylvania. Philadelphia. Bellevue-Stratford Hotel.

Jan. 21. Nebraska Building Chapter and Nebraska Chapter. Lincoln. Cornhusker Hotel.

Jan. 21-22-23. A.G.C. of Minnesota. St. Paul. St. Paul Hotel.

Jan. 22-23. Colorado Contractors Association. Denver. Shirley Savoy Hotel.

Jan. 27. A.G.C. of Rhode Island. Narragansett Hotel.

Jan. 28-29. Virginia Branch. Hot Springs. The Homestead.

Jan. 29. Central California Chapter. San Francisco. Mark Hopkins Hotel.

Jan. 29. Mississippi Valley Flood Control Branch. Memphis. Hotel Peabody.

Feb. 6. Kansas Chapter, Builders Division. Manhattan. Wareham Hotel.

Feb. 9. Tacoma Chapter. Tacoma. Winthrop Hotel.

Feb. 11. Contractors Association of Western Pennsylvania. Pittsburgh. Hotel William Penn.

Feb. 12-13. Kentucky Highway Chapter. Louisville. Kentucky Hotel.

March 10. Houston Chapter. Houston. College Inn.

March 23. West Texas Chapter. Abilene. (Not Selected).

April 6-7. Michigan Road Builders Association. Detroit. Hotel Statler.

April 15. Buffalo Chapter. Buffalo. Buffalo Club.

Tentative Dates

Jan. 15. A.G.C. of Milwaukee. Milwaukee. Schroeder Hotel.

A.G.C. Branch and Chapter Meeting Dates

Jan. 20. Southern California. Los Angeles. (Not Selected).

Jan. Alaska Chapter. Seattle. New Washington Hotel.

Jan. South Florida Chapter. (Not Selected).

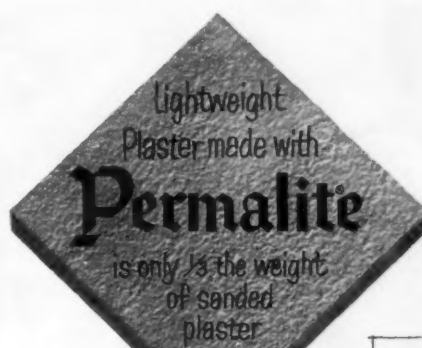
Jan. or Feb. A.G.C. of Wyoming. Cheyenne. Frontier Hotel.

Feb. Michigan Chapter. Lansing. Olds Hotel.

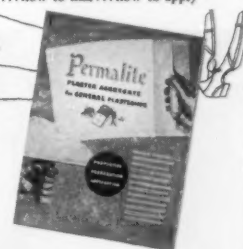
March. Baton Rouge Chapter. Baton Rouge. (Not Selected).

March. Cincinnati Chapter. Cincinnati. Cincinnati Club.

March. Metropolitan Builders Association. New York. University Club.



FACTS presented in this new authoritative brochure can put *you* money ahead! Complete tables and specifications ... how to mix ... how to apply



EVERYBODY BENEFITS WITH PERMALITE PLASTER!

ARCHITECTS like Permalite plaster aggregate because it aids them in the designing and specifying for modern structures ... saves up to 1 ton per 100 sq. yds. of wall surface in homes; up to 2 tons per 100 sq. yds. in commercial building!

BUILDERS like Permalite because it gives higher yield than any other lightweight aggregate. There's no waste (Permalite is sold in 4 cu. ft. bags) — easier, more accurate, mixing ... no storage problem, easier clean-up ... jobs finish quicker!

BANKS AND MORTGAGE COMPANIES like Permalite because it makes a building a better investment — less settling, less cracking, less maintenance and repair. Permalite plastered buildings keep their youth better!

PLASTERERS like Permalite because it's lighter to handle ... has better workability, works well under standard tools with no change in methods ... makes it easier to do a better job.

Send for your **FREE** copy ... Clip this ad ... attach it to your letterhead ... mail it in — TODAY!

Perlite Division, Great Lakes Carbon Corp., 612 So. Flower St., Los Angeles 17, Calif., Dept. T-351.

Franchise plans located in principal cities and in Canada. Write for name and address of plant nearest you.

PLASTER
AGGREGATE

Permalite®

The leading perlite aggregate for better plaster and concrete

CONCRETE
AGGREGATE



**Allied Has Special Skills
and the Facilities of 3 Shops
to Fabricate and Erect**

Highway Bridges

Send your plans and specifications to us to be estimated

PLANTS IN CHICAGO, ILLINOIS • HAMMOND, INDIANA • CLINTON, IOWA

Steel Fabricated for Bridge at Linn County for Iowa Highway Commission, General Contractor, Iowa Bridge Company, Des Moines, Iowa.



Fabricators and erectors of structural steel for highway and railroad bridges; industrial, office, school, and government buildings; airport structures; harbor facilities.

Tractor-Shovels—Clark Equipment Co., Buchanan, Mich. Six new models of Michigan tractor-shovels will be available in spring. They are of 3 major types: 2-wheel drive with bucket-wheel drive and rear-wheel steering; 2-wheel drive with rear drive wheels and bucket-wheel steering; 4-wheel drive with rear-wheel steering. Six models are: 12-B, 15 cu. ft. capacity, bucket-drive, rear-wheel steering; 75-B, 1 cu. yd. capacity, bucket-drive, rear-wheel steering; 75-R, 1 cu. yd. capacity, rear-wheel drive, bucket-steering; 75-A, 1 cu. yd. capacity, 4-wheel drive, rear-wheel steering; 125-A, 1½ cu. yd. capacity, 4-wheel drive, rear-wheel steering; 175-A, 2¼ cu. yd. capacity, 4-wheel drive, rear-wheel steering. Transmission of all models incorporates torque converter with 3 to 1 torque multiplication factor and is constant-mesh type with full-pressure lubrication. It is operated from 2 manual control levers on steering column. Another lever emerging through floor board controls over-drive. Clark Equipment Co. will manufacture in its own plants almost all component parts used in tractor-shovels.



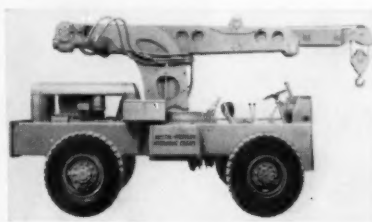
Michigan Model 75-R



Michigan 125-A in action

Loader—Pettibone Mulliken Corp., 4700 W. Division St., Chicago 51. Front-end loader with torque converter has one cu. yd. capacity. Model 10 is gasoline-powered and Model 10D is diesel-powered. When bucket is centered over truck, 7' above ground, front tires are 2' away from truck body, eliminating loss of time in spotting loaders.

Hydraulic Crane—Austin-Western Co., Aurora, Ill. Indoor-outdoor crane is self-propelled and hydraulically operated. Four functions are involved: turntable rotation, boom elevation, raising and lowering of cable and hook and power extension and retraction of boom. Crane has 360° boom rotation, 24' horizontal reach from center of rotation, 24' vertical lift from ground level to hook, ability to negotiate grades up to 20% under full load and 15 m.p.h. road speed under full load. Crane's over-all height is 9' and width is 8'.



Austin-Western hydraulic crane

Hopper Conveyor—Power-Pack Conveyor Co., 13910 Aspinwall Ave., Cleveland 10. Model 600 hopper conveyor, for filling trenches, curbing, ditches, pipelines, etc., is powered by 8 h.p. gasoline engine which drives 14" wide conveyor belt. Controls at operator's platform adjust belt speed, amount of material fed through bottom openings of hopper and placement of fill material. Maximum capacity is 3 tons per minute and maximum belt speed is 500' per minute. Conveyor is towed by truck as it dumps its load into hopper which feeds belt. Adjustable deflector permits operator to place material. Speed of truck and conveyor belt, and amount of material being carried by belt control rate of fill delivered. Model 600 will handle sand, cinders, crushed stone, heavy clay and other fill materials.

Hoists—Gar Wood Industries, Inc., Wayne, Mich. Two arm-type hydraulic hoists for on- or off-highway applications are Models 2825 and 2025 with 25- and 30-ton capacities. They feature 70° dump angles. Features are elevite-type bushings at all pivot points and cylinders that open at both ends, sandwich construction of 3-piece hydraulic pumps, parts interchangeable without hand fitting or use of shims. Scoop-end rock bodies are sold with new line. Hoists are described in bulletin, Form W-129.

Mixing Plant—Iowa Manufacturing Co., Cedar Rapids, Iowa. Model G-60 batch-type bituminous mixing plant is largest plant in "Cedar Rapids" line. Re-designed from Model E type plant, it has 50% greater capacity. Its 63 cu. ft. aggregate batcher and 60 cu. ft. mixing unit permit capacities ranging from 5,000 to 6,500 lbs. per batch. Plant may be operated manually or semi-automatically with full pneumatic controls, or batching and control equipment may be completely automatic and controlled electronically. Signal lights give information on each phase of cycle, and operator has unobstructed view of discharge gate at all times. Base unit of G-60 consists of tower structure, totally enclosed hot elevator, "Cedar Rapids" Model S 48" x 14' double-deck horizontal vibrating screen enclosed in sheet metal dust housing, 29 cu. yd. 4-compartment storage bin with overflow chute from each compartment and reject chute for over-size material, 60-cu. ft. twin-shaft mixer, 65-cu. ft. aggregate batcher, bitumen batcher, bitumen pump unit and pneumatic controls with compressor. For portable applications, mixing unit and screen-batcher unit are equipped with running gear with self-contained power erecting equipment to erect tower structure and elevate component units into operating position without need of crane.



"Cedar Rapids" Model G-60

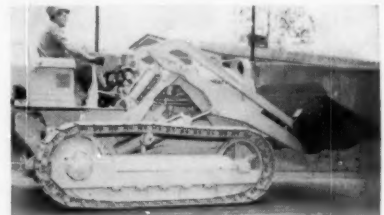
Porcelain Enamel—Bettinger Corp., Waltham, Mass. Full matte, acid-resisting porcelain enamel coating is designed for curtain wall construction. It is designed to overcome drawback of reflectivity of semi-matte finishes. Semi-matte or glossy porcelain enamel finishes repel acid attack due to basic frit formula used, while full matte finishes formerly did not because of deficiency in chemical properties of one frit used to produce

full matte finish. Manufacturer claims that new coating has overcome this problem.

Engine—*Detroit Diesel Engine Division, General Motors Corp., 13400 W. Outer Drive, Detroit 28.* Valveless engine develops 76 brake h.p. at 2,500 r.p.m. and weighs 1,450 lbs. It is of "4-51" series and is designed for use in rock crushers, small shovels,

air compressors, pumps and other equipment where compact power package is desirable. It is of 2-cycle design with Roots-type blower forcing fresh air into and exhaust gases out of cylinders. It has 4 cylinders arranged in line and is "square" engine with 4.1" bore and 4.1" stroke. Compression ratio is 18 to 1. It has automotive type electrical push-button starting.

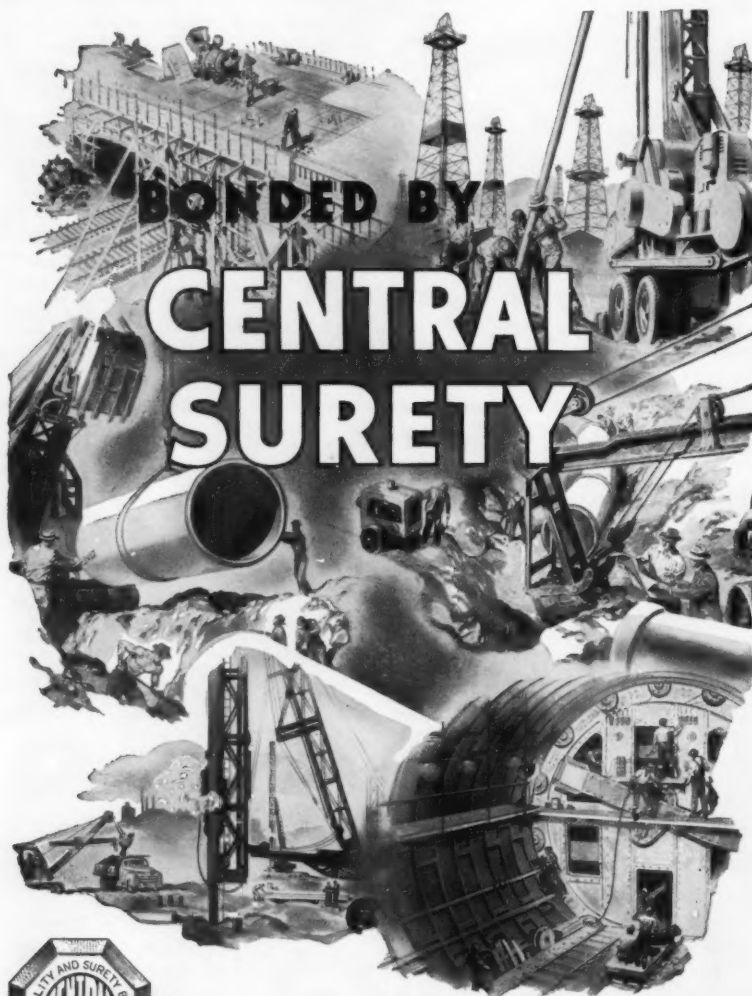
Shovel Bucket—*Caterpillar Tractor Co., Peoria 8, Ill.* New 2-position bucket for HT4 shovel provides greater flexibility because of adjustable pitch and deeper bowl. Two positions are achieved by changing removable pins on each side of bucket to either forward or rear hinge points. Forward hinge point for stockpiling gives quicker tilt-back and less spillage because of 10° rack-back at ground line. When bucket is connected to rear hinge point it has digging and dumping angles desirable for excavating work. Re-designed bucket teeth are available.



Two-position bucket for Caterpillar HT4 shovel

Compaction Roller—*Rosco Manufacturing Co., 3118 Snelling Ave., Minneapolis 6.* Multiple-wheel pneumatic-tired roller, "Rosco-Pactor" is offered in 9- and 13-wheel types. Tires are smooth-tread 7.50-15, providing positive lap between front and rear tread. Machine is designed to distribute weight equally on all tires. Thirteen-wheel model weighs 3,700 lbs. and provides compaction path of 84". Nine-wheel model weighs 2,820 lbs. and compaction path is 60". Both models are 106" wheelbase with loaded height of 44" and are built to box length of 10'.

Concrete Trowel—*Mall Tool Co., 7725 S. Chicago Ave., Chicago 19.* Model TG-4 "Pow'r Trowl" is equipped with 14" steel finishing trowels set in 34" diameter ring. Available at extra charge are 18" floating trowels in 48" ring. TG-4 is powered by one-cylinder, 4-cycle, air-cooled 2 h.p. gasoline engine. Thumb throttle and cut-off switch are mounted on handlebar. Other features are "Quick-Change-Trowel" speed conversions from one trowel to other; auxiliary carrying handle mounted under operating handle; tool tray for holding bags of sand, gravel or steel slugs for extra weight; top hook for lifting from one level to another; covering bag.



CENTRAL SURETY AND INSURANCE CORPORATION

R. E. McGINNIS, President

HOME OFFICE KANSAS CITY, MISSOURI



It's Barnes Again

ON ANOTHER TOUGH ONE!

PUMPING 36,000 G.P.H. AT 130 FEET OF HEAD

Here is really a tough one! With the discharge lines running straight up for 100 feet and then taking off at an angle for 20 more feet—these two Barnes 90M Self-Priming Centrifugal Pumps are doing an outstanding job of controlling the water level in this gypsum quarry of the Celotex Corporation at Port Clinton, Ohio.

To make the job even tougher, the water is high in sulphur content and laden with grit and silt. Yet these Barnes pumps have been on the job day-in-and-day-out—one pump for 7 years—the other for 3 years. Maintenance has been practically nothing—only to shim the impeller of one pump to bring it within recommended clearances.

So it's Barnes again on another tough one. And if Barnes is tops on the tough jobs—think what a buy they are for the every day, ordinary de-watering jobs.



The Barnes Line of Self-Priming Centrifugals ranges in suction and discharge sizes from 1-in. to 6-in.—with capacities from 2,000 to 90,000 G.P.H. Choice of Gasoline, Diesel, Electric or Pulley Drives.



★ ★ ★ BUY THE BEST...BUY BARNES ★ ★ ★



The Medical Sciences Building at San Francisco as it neared completion, with some unenclosed steelwork still visible at upper left. The adjoining building at right is the Medical Center hospital.

14-Story Medical Building Erected Without Riveting

Construction of the new Medical Sciences Building, teaching unit at the University of California Medical Center in the Sunset district of San Francisco, posed a special problem. For right at the edge of the site were hundreds of hospital patients for whom the clattering of riveting hammers for hours every day would be an ordeal.

To spare the patients, the building's architects, Blanchard and Meyer, called for erection of the steelwork with bolts, and Bethlehem Pacific, West Coast subsidiary of Bethlehem Steel, set in place the 2,000 tons of columns and girders without the rat-tat-tat that commonly signalizes steel going up.

The job required over 70,000 bolts. Some of them came from Bethlehem Pacific plants on the Coast, while others were special high-strength bolts from Bethlehem Steel's plant at Lebanon, Pa.

The Medical Sciences Building is one of the first buildings of this size to have a bolted steel frame. Now the practice of erecting steel structures with bolts is spreading. Buildings with bolted connections are going up in all parts of the country, with resulting saving in time and elimination of riveting noise.

BETHLEHEM STEEL COMPANY, BETHLEHEM, PA.

On the Pacific Coast Bethlehem products are sold by Bethlehem Pacific Coast Steel Corporation. Export Distributor: Bethlehem Steel Export Corporation



Man at left is not riveting, but tightening nuts on bolts with power-driven wrench. Rivets in lower part of picture had been driven previously, in the shop.

BETHLEHEM STEEL

THE CONSTRUCTOR, JANUARY 1954

NEW EQUIPMENT • MATERIALS

Trailer—Rogers Bros. Corp., 223 Orchard St., Albion, Pa. Triple-axle low-bed trailer has 12 tires on rear mounted on 3 axles designed to provide free oscillation to distribute load. At front is gooseneck dolly mounted on axle with 4 tires. When used with dual axle trailer, weight of tractor, trailer and load is distributed over 7 axles and 26 tires. It is available in several capacities with conventional gooseneck or Rogers power-lift detachable gooseneck.



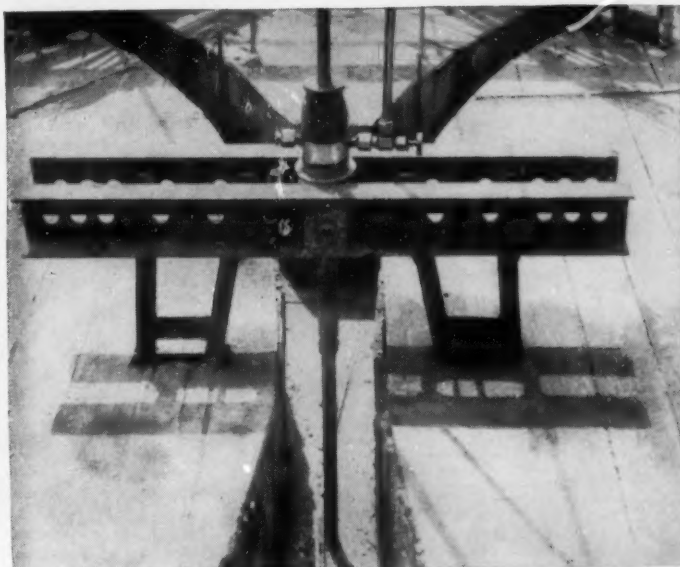
Rogers triple-axle trailer

Trucks—The Four Wheel Drive Auto Co., Clintonville, Wis. New line of 4- and 6-wheel drive heavy-duty trucks feature "Math-Matic" design which produces mathematically correct proportioning of truck weight and power between front and rear wheels, manufacturer states. Other features of trucks are "Rigi-Tapered" frame with deep taper design to make front end rigid for mounting equipment and distribute load over entire frame; full-floating rear axle; trunion-mounted radiator, isolated from frame by rubber; rubber-cushioned engine mountings; valve-in-head engines; 12-volt electric system; heavy-duty steering gear with power steering optional; stirrup-action clutch and brakes with clutch hydraulically assisted and brakes power-assisted.

Bituminous Paver Finisher — All Purpose Spreader Co., Elyria, Ohio. Rubber-mounted machine, Model PF-90, will spread, level and tamp hot or cold bituminous mix in one continuous operation. No forms are required. It has low-cut hopper to accommodate large dump trucks, dual-drag type conveyors, individually controlled, vertical adjustment of cross augers, dual controls. Finisher has over-all length of 19' and width of 10'. Approximate weight is 20,000 lbs. Spreading width is 8" to 13', spreading depth is 0" to 10". Eight working speeds range from 18' to 74' per minute. Travel speed is 5½ m.p.h.

SLIPFORM CONSTRUCTION with

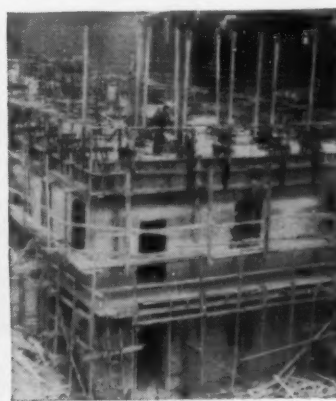
"CONCRETOR" HYDRAULIC JACK



SYNCHRONIZED JACKING CONTROLLED CENTRALLY OR INDIVIDUALLY



Silo in process of erection with typical "CONCRETOR" Slipform standard machine. Machines can be purchased, or rented.



"CONCRETOR" equipment in use with wood forms. Rental plan available for all types of construction.

- Submit your plans to our engineering dept. for a proposal, or write us for further particulars.

B. M. HEEDE, INC.
80 BROAD ST., NEW YORK 4, N. Y.



STANDARD FORMS

COVERING IMPORTANT CONTRACTING PROCEDURE



Prepared by The Associated General Contractors of America and Cooperating Bodies

Order No.	MANUALS	Per Copy	Per Dozen	Per 100
1.	A.G.C. Manual (Contains documents listed below: Nos. 3-30, inclusive, and Nos. 34, 35, 36, 36a, 37, 38).	\$5.00	\$50.00	—
2.	Accident Prevention Manual (Revised and enlarged 1952)	3.00	30.00	\$210.00
CONTRACTS				
3.	Suggested Form of Contract, Engineering Construction Projects, prepared by A.S.C.E. and A.G.C., 1953 edition .....	.25	2.75	20.00
4.	Standard Building Contract of the American Institute of Architects—Revised 6th Edition .....	.50		47.50
5.	Subcontract form—American Institute of Architects—Revised 6th Edition .....	.10		9.50
6.	Standard Form of Acceptance of Subcontractor's Proposal .....	.10		9.50
7.	Standard Government Contract .....	.01		
8.	A.G.C. Cost Plus a Fee Contract .....	.10	.50	2.50
9.	A.I.A. Cost Plus a Fee Agreement between Contractor and Owner—Revised 6th Edition .....	.10		
11.	Equipment Rental Agreement .....	.10	.50	3.00
12.	A.G.C. Proposal Form .....	.10	.50	3.00
ESTIMATING AND ACCOUNTING				
13.	A.I.A. Accounting Form #701 "Change Order" .....	.20	1.80	12.00
14.	A.I.A. Accounting Form #702 "Request for Partial Payment" .....	.20	1.80	12.00
15.	A.I.A. Accounting Form #703 "Certificate for Payment" .....	.20	1.80	12.00
16.	Building Estimate Summary .....	.10	.50	3.00
17.	Job Overhead Summary .....	.10	.50	3.00
20.	Contractors' Equipment Ownership Expense (Itemized tables of ownership expense elements with instructions for application. Revised 1949)	1.00	10.00	65.00
21.	Equipment Record—Bond paper .....	.10	.50	3.00
22.	Equipment Record—Cardboard .....	.10	.50	3.50
INVESTIGATION OF BIDDERS				
24.	Standard Pre-Qualification Questionnaires and Financial Statements for Prospective Bidders—Complete in Cover. Building Construction (For Qualifying Before Bidding) .....	.20	1.80	12.00
25.	Standard Pre-Qualification Questionnaires			

Order No.	INVESTIGATION OF BIDDERS (Continued)	Per Copy	Per Dozen	Per 100
	and Financial Statements for Prospective Bidders—Complete in Cover. Building Construction (For Qualifying Before Bidding)	\$.20	\$1.80	\$12.00
26.	Standard Questionnaires and Financial Statement for Bidders—Complete in Cover. Engineering Construction (For Qualifying After Bidding) .....	.20	1.80	12.00
27.	Standard Questionnaires and Financial Statement for Bidders—Complete in Cover. Building Construction (For Qualifying After Bidding) .....	.20	1.80	12.00
28.	Financial Statement and Questionnaire for Credit Transactions .....	.20	1.80	12.00
MISCELLANEOUS				
29.	Insurance Check List .....	.10	1.00	5.00
30.	The Functions of a General Contractor .....	.10	.75	6.00
34.	A.G.C. Governing Provisions .....	.10	.50	3.00
35.	A.G.C. Code of Ethical Conduct .....	.10	.50	3.00
36.	Concrete Mixer Standards			Single copies—no charge; quantity prices on application.
36a.	Contractors' Pump Standards			
37.	A.I.A. Standard Form of Arbitration Procedure			
38.	Suggested Guide to Bidding Procedure			

FOR A.G.C. MEMBERS ONLY



A.G.C. EMBLEM

List of Styles and Prices on request.

SIGNS AND SEALS

39.	A.G.C. Cardboard Seal (red and black) 24" dia. ....	.50
40.	A.G.C. Metal Seal (red and black) 10" dia. ....	.40
41.	A.G.C. Decalcomania Seal (red and black) a. 10" dia. ....	.20
	b. 5" dia. ....	.10
Metal Seals and Decals: 20% discount for orders of more than 50; 40% discount for orders of 200 or more.		

43. A.G.C. SOCIAL SECURITY FORMS

Form SS1: Application for Employment; Form SS2: Employees' History Record; Form SS3: Employees' Employment and Earnings; Form SS4: Payroll. List of prices and styles will be furnished to A.G.C. members on request.

USE THE CONVENIENT COUPON TO PLACE YOUR ORDER

Order No.	Amount	Cost	11.	12.	13.	14.	15.	16.	17.	20.	21.	22.	24.	25.	26.	27.	28.	29.	30.	34.	35.	36.	36a.	37.	38.	39.	40.	41a.	41b.	43. Price List and Samples <input type="checkbox"/>	Price List and Styles of Emblem <input type="checkbox"/>	TOTAL COST
1.																																
2.																																
3.																																
4.																																
5.																																
6.																																
7.																																
8.																																
9.																																

Make Checks payable to CONSTRUCTION FOUNDATION, A.G.C., Munsey Building, Washington 4, D. C.

Gentlemen: Enclosed find check for \$_____ for which please send materials as ordered by number herewith.

Name _____ Address _____

City _____ Zone _____ State _____

Jan. 1954

NEW LITERATURE

Metal Fabricating—*R. C. Mahon Co., 6565 E. Eight Mile Road, Detroit 34.* A Picture Story of The R. C. Mahon Company is title of illustrated booklet portraying company's metal-fabricating and production facilities, its products and services and its capacity to serve industry. Each of 8 divisions is treated separately.

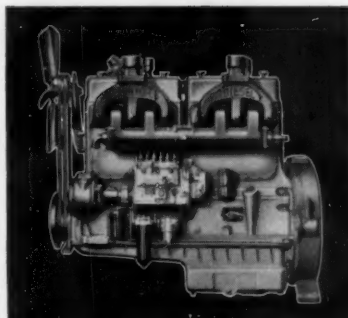
Lift Truck—*Hyster Co., 2902 N. E. Clackamas St., Portland 8, Oreg.* Illustrated booklet presents YT-40 4,000-lb. capacity lift truck. Complete description, specifications and on-job photos are included.

Porcelain Enamel—*Erie Enameling Co., Erie, Pa.* Custom-fabricating service for architectural porcelain enamel is described in booklet. Service includes field service, engineering, delivery from factory and erection on job site by specialized crews. Booklet describes and illustrates all types of service, gives general information on Erie porcelain enamel, data on standard cornice facia carried and stock and architectural drawings of typical construction details.

Buckets—*Owen Bucket Co., 7750 Breakwater Ave., Cleveland 2.* Booklet, Form MD-085310, presents Owen clamshell buckets, Type M, general-purpose, and Type D, heavy-duty. Ratings, dimensions and weights are given. Material-handling buckets, Types K and S are presented in second folder with descriptions accompanying specifications. Owen grapples for scrap, rock and pulpwood are described in Form G-085315. Ratings, dimensions and weights are given.

Trailers—*Rogers Brothers Corp., Albion, Pa.* Folder presents Rogers line of trailers for moving heavy machinery. Various models are pictured and described, features of power-lift detachable gooseneck are shown. Tilt-deck and triple-axle trailers are featured. Pictured are moving jobs performed by machines.

Artificial Respiration—*Aetna Life Affiliated Cos., Hartford 15, Conn.* Folder illustrates Nielsen "back-pressure arm-lift" method of artificial respiration. Entitled *A Life in Your Hands*, it is illustrated with series of photos showing proper method of administering Nielsen technique, which is replacing Schafer prone-pressure method.



WAUKESHA Super-Duty Six DIESEL (WAKD)—six cylinders, 6¼-in. bore x 6½-in. stroke, 1197 cu. in. displacement, peak hp 224 at 1600 rpm.



Cutting a new road—part of the Van Wyck Expressway connecting International Air Port with Flushing, Long Island—with a Waukesha Diesel powered Lorain shovel



Owner A. J. Orlando says...

"TO MOVE DIRT FAST
and ECONOMICALLY—I prefer
WAUKESHA DIESELS
to any others
I have owned or operated"

A. J. Orlando puts on the power—digging starts! It's that quick—that smooth! It's *fast recovery* that makes the Waukesha Diesel so different. "A. J." knows the difference. So do his operators. He owns not one, but three Waukesha Diesel powered 2-yd. Lorain shovels—all working for the A. J. Orlando Contracting Co., Whiteside, L. I., New York.

Plenty of other contractor-owners, and their operators prefer Waukesha Diesels. For the same reasons. More loads per minute. Extra power in the pinches. All-around dependability. And the lively, responsive acceleration, shock-free operation, and clean burning for fuel economy that you get with the patented spherical combustion chamber of the Waukesha Diesel. Check *all* its features—get Bulletin 1415.

231

WAUKESHA MOTOR COMPANY, WAUKESHA, WIS.
New York • Tulsa • Los Angeles

NEW LITERATURE

Concrete Placing Manual—Garbro Manufacturing Co., 2415 E. Washington Blvd., Los Angeles 21. Manual on handling and placing concrete is condensed handbook covering all phases of concrete construction methods from selection of concrete through batching and placing procedures. It provides check lists of job specifications, job conditions and equipment. Available current technical data are listed. Tables are included. Correct and incorrect placing methods are illustrated. Unusual jobs are shown. References are made to proper equipment.

Concrete Reinforcing—Pittsburgh Steel Products Co., Room 1404, Grant Bldg., Pittsburgh 19. Booklet describes use of "Steeltex" for reinforcing concrete, mortar, stucco and plaster. Examples of applications to give strength and form to floors, roofs, ceilings and walls are described in detail. Case histories are reported. Tables of weights, safe loads and cut-away drawings supplement photos and text.

Excavating Machinery—Osgood-General Excavator Co., Marion, Ohio. Bulletin 5324 presents pictorially line of excavating and materials-handling machinery and gives condensed specifications. Choice of mountings and front-end attachments is illustrated as well as special equipment for various types of operation.

Graders—Caterpillar Tractor Co., Peoria 8, Ill. Folder (Form 30822) presents 3 sizes of motor graders. It shows graders performing contour terracing, ditching and casting, bulldozing and blading for grade construction, spreading windrows of oil and aggregate, removing snow from airfields and bank-cutting. Graders shown are No. 12 (100 h.p.), No. 112 (75 h.p.) and No. 212 (50 h.p.).

Service Methods—Caterpillar folder, Form D381, discusses service methods used by Caterpillar dealers in shop and field. Included is map of U. S., Canada and Mexico, showing location of Caterpillar dealers, parts depots and factories.

MANUFACTURERS' NOTES

INTERNATIONAL HARVESTER Co. announces an agreement with the Heil Co. which will enable Harvester to manufacture 2-wheel rubber-tired industrial tractors. The arrangement is covered by a contract under which Harvester acquires Heil patents covering 2-wheel tractors, together with designs and manufacturing data. Under the agreement Heil will supply Harvester with 2-wheel tractors for an interim period until Harvester begins manufacture of tractors, and Heil will also manufacture certain types of scrapers and wagons for Harvester during the period of the agreement, which continues for a number of years.

Harold O. Washburn has been elected chairman of the board of AMERICAN HOIST AND DERRICK Co. John E. Carroll, vice president of sales, succeeds him as president.

Willis G. Scholl, vice president in charge of the Tractor Division of ALLIS-CHALMERS MANUFACTURING

When time counts—count on

F&D

When you're after a contract, it's important that lining up your bid and performance bonds should be *quick and easy*.

If you have set up a working arrangement *in advance* with the F&D, a phone call often is all that's needed to assure the

prompt execution of the bonds you need.

You wouldn't hire a bricklayer to run a bulldozer, or a carpenter to put in a heating system. You'd use a specialist. On Contract Bonds, use our 63 years of *specialized experience!*

FIDELITY AND DEPOSIT COMPANY
Baltimore Maryland



FIDELITY AND SURETY BONDS
BURGLARY AND OTHER NEEDED
FORMS OF INSURANCE

AFFILIATE: AMERICAN BONDING COMPANY OF BALTIMORE

Co., has been elected to the board of directors. Neil Pohl has been named motor grader sales manager of the industrial sales department of the Tractor Division.

R. A. Hummel, chairman of the LONE STAR CEMENT CORP., has been re-elected chairman of the board of directors of the Portland Cement Association.

J. H. Gill has been named manager of industrial sales section of new engine division of CATERPILLAR TRACTOR Co. . . . Caterpillar's Peoria plant has been presented its second National Safety Council award for safe operating practices this year.

V. L. Snow, formerly manager, domestic sales, has been promoted to director of sales of EUCLID DIVISION, GENERAL MOTORS CORP. E. F. Armington is resigning as sales manager but will continue to serve as sales consultant. J. E. Ehlert succeeds Mr. Snow. Robert J. Lenz has been named manager of the customer service department.

Madison L. Crawford has been appointed advertising manager of THE FRANK G. HOUGH CO.

GAR WOOD INDUSTRIES, INC. has organized the Mattoon Division to handle production of Gar Wood bulldozers and scrapers. Hunter Dietz, formerly plant manager at Mattoon, Ill., has been appointed manager of the division. Dave Davis, formerly assistant sales manager of Gar Wood's Findlay Division, has been named tractor equipment sales manager. Arthur C. Evans has been named chief engineer, tractor equipment.

Howard F. Barrows, advertising manager and research director for AUSTIN-WESTERN Co., has been made an honorary member of the Soil Conservation Society of America, in recognition of his work in seeking ways in which heavy earth-moving equipment can be most efficiently and effectively used in soil and water conservation work.

Alex Kostyzak has been named sales manager of MADSEN IRON WORKS, INC.

Robert E. Tanner has been elected vice president and general manager of CARVER PUMP CO.



No Overhead
Space Lost

No Wall
Space Lost

Opened Door
Clears Entire
Doorway

Wind or Storm
Can't Damage Doors
— Open or Closed!

because they're

Kinnear Steel Rolling Doors

You can see some of the many advantages Kinnear Rolling Doors bring to all types of service opening in this warehouse installation.

Coiling compactly above the lintel, Kinnear Rolling Doors never get in the way of the overhead conveyor. And since they need no wall space for either storage or operation, posts, walls, windows or other doors can be placed flush with the door jambs on both sides of the opening.

These and other space-saving conveniences are in addition to the long-wearing ruggedness, fire resistance, and protection of Kinnear's



interlocking steel-slat curtain. Their coiling action is also ideal for motorized, push-button control.

Kinnear Steel Rolling Doors are built to fit opening of any size, in any building, old or new. Write today for full information.

KINNEAR
ROLLING DOORS
Saving Ways in Doorways

The Kinnear Manufacturing Co.

Factories:

650-680 Fields Avenue, Columbus 16, Ohio
1742 Yosemite Ave., San Francisco 24, Calif.
Offices & Agents in All Principal Cities

ADVERTISERS' PRODUCTS

Manufacturers' addresses are listed on page 94

Aggregate (Light-Weight)

Perlite Division

Airplanes

Aero Design and Engineering Co.

Air Lines

United Air Lines

Asphalt Joint Sealer

Servicised Products Corp.

Asphalt Plants (Portable)

Barber-Greene Co.
Iowa Mfg. Co.

Awnings (Aluminum)

Kawneer Co.

Backfillers

Bucyrus-Erie Co.
Cleveland Trencher Co.
Harnischfeger Corp.
Parsons Co.
Unit Crane and Shovel Corp.

Batchers

Blaw-Knox Division
Construction Machinery Co.
Heltzel Steel Form & Iron Co.
C. S. Johnson Co.

Bearings (Anti-Friction, Tapered Roller)

Ilyatt Bearings Division
Timken Roller Bearing Co.

Belting

Carlyle Rubber Co.

Bins

Blaw-Knox Division
L. Burmeister Co.
Heltzel Steel Form & Iron Co.
Iowa Mfg. Co.
Irvington Form & Tank Corp.
C. S. Johnson Co.

Bits (Detachable Drill)

Timken Roller Bearing Co.

Blades (Grader, Maintainer, Snow Plow, Bulldozer, Scarifier)

Shunk Manufacturing Co.

Bridges

Armco Drainage & Metal Products

Buckets (Clamshell & Dragline)

Blaw-Knox Division
Bucyrus-Erie Co.
Harnischfeger Corp.
C. S. Johnson Co.
Owen Bucket Co.
Wellman Engineering Co.

Buckets (Concrete)

Blaw-Knox Division
Construction Machinery Co.
Heltzel Steel Form & Iron Co.
Owen Bucket Co.

Buildings (Steel)

Allied Structural Steel Cos.
Armco Drainage & Metal Products
Macomber, Inc.
Truscon Steel Division

Bulldozers

Gar Wood Industries, Inc.
LeTourneau-Westinghouse Co.

Car Pullers

Clyde Iron Works
Superior-Lidgerwood-Mundy Corp.

Cement (Common and Special)

Lehigh Portland Cement Co.
Lone Star Cement Corp.
Marquette Cement Mfg. Co.
Medusa Portland Cement Co.
Universal Atlas Cement Co.

Cement (White)

Medusa Portland Cement Co.
Trinity White, General Portland Cement Co.
Universal Atlas Cement Co.

Clamps (Hose)

Dixon Valve & Coupling Co.

Compressors

Allis-Chalmers Co.
LeRoi Co.
O.K. Machinery Division

Concrete Mixers, Pavers, Tampers

Chain Belt Co.
Construction Machinery Co.
Foote Construction Equipment Division
Jaeger Machine Co.
Knickerbocker Co.
Koehring Co.
Kwik-Mix Co.
T. L. Smith Co.
Worthington Corp., Construction Equipment Division

Concrete Slab Void Tubes

Sonoco Products Co.

Concrete Vibrators

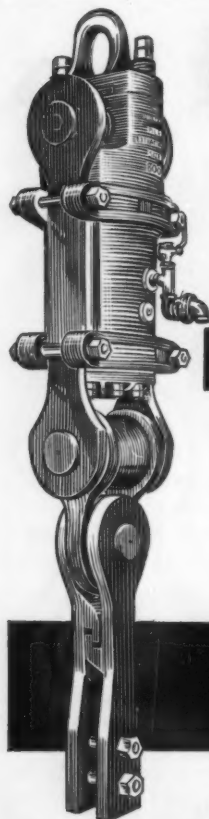
Concrete Surfacing Machinery Co.
Electric Tamper & Equipment Co.

Conveying Machinery

Barber-Greene Co.
Chain Belt Co.
Iowa Mfg. Co.

Cranes

Austin-Western Co.
Bucyrus-Erie Co.
Clark Equipment Co., Construction Machinery Division
Cleveland Trencher Co.
Clyde Iron Works
Gar Wood Industries, Inc.
Harnischfeger Corp.



POWERFUL PULL VULCAN PILE EXTRACTORS

Specialized power for pulling piles under the toughest conditions. Only one moving part, requires no adjustments and can't get out of order.

WRITE TODAY FOR COMPLETE DETAILS AND NAME OF NEAREST DEALER



Manufacturers of Pile Driving Hammers and Pile Extractors Since 1852
VULCAN IRON WORKS • 329 NORTH BELL AVENUE • CHICAGO 12, ILL.

It Adds Up...

for Contractors!

- ✓ Prompt, nation-wide service
- ✓ Bonds-Bid and Performance
- ✓ Equipment Floaters
- ✓ Valuable Papers Insurance
- ✓ Casualty Insurance Requirements

+ 70 Years' Experience

**AMERICAN SURETY
COMPANY**

100 Broadway • New York 5, N. Y.

Agents and Brokers Everywhere

Koehring Co. Northwest Engineering Co. Thew Shovel Co. Unit Crane and Shovel Corp.	Drills & Drilling Machinery Bucyrus-Erie Co. Timken Roller Bearing Co.	Finishing Machines (Bituminous) Barber-Greene Co.	Gravel Plants (Portable) Iowa Mfg. Co.
Crushing Machinery Allis-Chalmers Co. Austin-Western Co. Iowa Mfg. Co.	Drills (Electric) Wodack Electric Tool Corp.	Finishing Machines (Concrete) Blaw-Knox Division	Grinders (Electric) Wodack Electric Tool Corp.
Culverts Albert Pipe Supply Co. Armco Drainage & Metal Products	Elevators (Material) Chain Belt Co. Iowa Mfg. Co. O.K. Machinery Division	Flooring Truscon Steel Division	Hammers (Electric) Wodack Electric Tool Corp.
Cutters (Abrasive) Wodack Electric Tool Corp.	Engines Allis-Chalmers Tractor Div. American Hoist & Derrick Co. Caterpillar Tractor Co. Continental Motors Corp. Cummins Engine Co. Detroit Diesel Engine Division Harnischfeger Corp. International Harvester Co. LeRoi Co. Waukesha Motor Co. Wisconsin Motor Corp.	Forms (Concrete) and Accessories Blaw-Knox Division Economy Forms Corp. Gateway Engineering Co. Heltzel Steel Form & Iron Co. Irvington Form & Tank Corp. Joseph T. Ryerson & Son, Inc. Sonoco Products Co. Symons Clamp & Mfg. Co. Walton Plywood Co.	Hoists American Hoist & Derrick Co. Clyde Iron Works Construction Machinery Co. Harnischfeger Corp. O.K. Machinery Division Superior-Lidgerwood-Mundy Corp.
Decking (Roof Steel & Aluminum) Macomber, Inc.		Generating Sets (Electric) Caterpillar Tractor Co.	Hose (Air, Water, Steam, Suction) Carlyle Rubber Co.
Derricks Clyde Iron Works	Expansion Joints Laclede Steel Co. Servicised Products Corp.	Graders J. D. Adams Mfg. Co. Allis-Chalmers Tractor Div. Austin-Western Co. Caterpillar Tractor Co. Euclid Division Galion Iron Works & Mfg. Co. Gar Wood Industries, Inc. Koehring Co.	Industrial Financing C.I.T. Corp.
Doors (Metal, Wood) Ceco Steel Products Corp. Kawneer Co. Kinneair Mfg. Co. R. C. Mahon Co. Truscon Steel Division	Facing (Aluminum) Kawneer Co.		Insurance (Automobile, Casualty, Compensation, Liability) Aetna Casualty & Surety Co. American Casualty Co. Central Surety & Insurance Corp. Employers Mutuals of Wausau
Dredging Machinery Harnischfeger Corp. Northwest Engineering Co.	Financing C.I.T. Corp.		

USE Trinity White

PORTLAND CEMENT

the whitest white cement



Trinity White is a true portland cement and has unexcelled beauty—the beauty of the whitest white . . . plus the best possible results when color pigments are added. Use it wherever you want greater masonry beauty or higher light reflection as for example: architectural concrete units; terrazzo; stucco; light-reflecting floors and walls. For descriptive literature, write Trinity White Cement, 111 W. Monroe St., Chicago.

A Product of GENERAL PORTLAND CEMENT CO. • Chicago • Dallas • Chattanooga • Tampa • Los Angeles

ADVERTISERS' PRODUCTS

Joists (Steel)
Ceco Steel Products Corp.
Laclede Steel Co.
Macomber, Inc.

Lighting Plants
LeRoi Co.

Loaders (Portable)
J. D. Adams Mfg. Co.
Barber-Greene Co.

Lubricants
Gulf Oil Corp.

Menders (Hose)
Dixon Valve & Coupling Co.

Mixers (Truck)
Blaw-Knox Division
Chain Belt Co.

Mixing Plants
Blaw-Knox Division
L. Burmeister Co.
Chain Belt Co.
C. S. Johnson Co.

Mortar (Masonry)
Lehigh Portland Cement Co.
Marquette Cement Mfg. Co.

Nipples (Hose)
Dixon Valve & Coupling Co.

Pan Forms (Concrete)
Gateway Erectors, Inc.

Partitions (Steel, Load-Bearing)
Macomber, Inc.

Pile Drivers
American Hoist & Derrick Co.
Austin-Western Co.
Bucyrus-Erie Co.
Gar Wood Industries, Inc.
Harnischfeger Corp.
McKiernan-Terry Corp.
Northwest Engineering Co.
Thew Shovel Co.
Vulcan Iron Works

Piling (Steel)
Albert Pipe Supply Co.
Allied Structural Steel Cos.
Armco Drainage & Metal Products
Bethlehem Steel Co.

Pipe
Albert Pipe Supply Co.
Armco Drainage & Metal Products
Laclede Steel Co.
Naylor Pipe Co.
Universal Concrete Pipe Co.
Universal Sewer Pipe Corp.

Plywood
Walton Plywood Co.

Pumps (Contractors')
Barnes Mfg. Co.
C.H.&E. Mfg. Co.
Carver Pump Co.
Chain Belt Co.
Construction Machinery Co.
Essick Manufacturing Co.
Gorman-Rupp Co.
Griffin Wellpoint Corp.
Jaeger Machine Co.
Leyman Mfg. Corp.
Marlow Pumps
Novo Engine Co.
Peerless Pump Division
Rice Pump & Machine Co.
Sterling Machinery Corp.
Worthington Corp., Construction Equipment Division

Pumps (Jetting)
Gorman-Rupp Co.
Griffin Wellpoint Corp.

Quantity Surveyors
H. A. Sloane Associates

Quarry Plants
Austin-Western Co.
Iowa Mfg. Co.

Railway Equipment & Track Material
Wisconsin Motor Corp.

Reinforcement Accessories
Economy Forms Corp.
Symons Clamp & Mfg. Co.

Reinforcing Steel and Mesh
Bethlehem Steel Co.
Ceco Steel Products Corp.
Connors Steel Division
Laclede Steel Co.
Joseph T. Ryerson & Son, Inc.
Truscon Steel Division

Rollers
Austin-Western Co.
Blaw-Knox Division
Euclid Division
Galion Iron Works & Mfg. Co.

Roof Deck (Steel)
Allied Structural Steel Cos.
Ceco Steel Products Corp.
Irvington Form & Tank Corp.
R. C. Mahon Co.
Truscon Steel Division

Rope (Wire)
American Hoist & Derrick Co.
Joseph T. Ryerson & Son, Inc.

Sash (Metal, Wood)
Hope's Windows, Inc.
Truscon Steel Division

Saws (Chain and Portable)
De Walt, Inc.



CONCRETE JOIST CONSTRUCTION

RENTAL and ERECTION SERVICE

Ask for Catalog No. 3100



- ★ Low Cost Form Work
- ★ Fire Proof
- ★ Long Spans
- ★ Standardized Sizes
- ★ Flexible in Design

Gateway offers two types of Metal Pan Systems to contractors: The Nailed-Down System and the Gateway "Slip-In" System. A complete manual of erection details is available by contacting the nearest Gateway office. Centering erection is a "Gateway" specialty. 100,000,000 sq. ft. of Form Area installed, is Gateway's guarantee of service, reliability and responsibility.

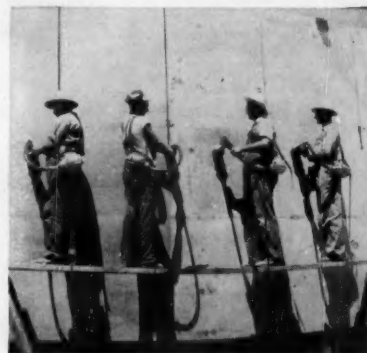
Stocked in . . .

CHICAGO—CINCINNATI—NEW YORK—BALTIMORE—KANSAS CITY

Gateway Erectors, Inc.

3233 W. Grand Ave., Chicago 51, Ill. NE vada 2-1100

"BERG" CONCRETE SURFACERS



"BERG" Concrete Surfacers are used extensively for surfacing concrete buildings, bridges, dams, walls, roads, streets, airport runways and other applications.

"BERG" Heads and Attachments are interchangeable, thereby providing adaptability for vibrating, grinding, wire brushing, sanding and polishing applications.

THE CONCRETE SURFACING MACHINERY COMPANY

4665-69 SPRING GROVE AVE.
CINCINNATI 32, OHIO

ADVERTISERS' PRODUCTS

Scaffolding (Sectional Steel, Tubular Steel)
Safway Steel Products, Inc.

Scarifiers
J. D. Adams Mfg. Co.
Austin-Western Co.

Scrapers
Austin-Western Co.
Caterpillar Tractor Co.
Euclid Division
Galion Iron Works & Mfg. Co.
Gar Wood Industries, Inc.
LeTourneau-Westinghouse Co.

Screens (Sand, Gravel & Coal)
Iowa Mfg. Co.

Shores
Symons Clamp & Mfg. Co.

Shovels (Power)
American Hoist & Derrick Co.
Austin-Western Co.
Bucyrus-Erie Co.
Clark Equipment Co., Construction Machinery Division
Gar Wood Industries, Inc.
Harnischfeger Corp.
Koehring Co.
Northwest Engineering Co.
Thew Shovel Co.
Unit Crane and Shovel Corp.

Shutters (Fire, Labeled)
Kinnear Mfg. Co.
R. C. Mahon Co.

Slings (Wire Rope)
American Hoist & Derrick Co.

Slipform Equipment
B. M. Heede, Inc.

Spreaders (Bituminous Surface)
Galion Iron Works & Mfg. Co.
Gar Wood Industries, Inc.

Stabilizing Equipment
Harnischfeger Corp.
Iowa Mfg. Co.

Steel (Structural)
Allied Structural Steel Cos.
Bethlehem Steel Co.
Flint Steel Corp.
Macomber, Inc.
Joseph T. Ryerson & Son, Inc.
Truscon Steel Division

Store Fronts
Kawneer Co.

Surety Bonds
Aetna Casualty & Surety Co.
America Fore Insurance Group
American Casualty Co.
American Surety Co.
Central Surety & Insurance Corp.
Employers Mutuals of Wausau
Fidelity & Deposit Co.
Fire Association of Philadelphia
Insurance Co. of North America
National Surety Corp.

Surveying Instruments
Fennel Instrument Corp.

Tires
Goodyear Tire & Rubber Co.

Tools (Pneumatic, Electric)
Allis-Chalmers Co.

Tractors
Allis-Chalmers Tractor Div.
Caterpillar Tractor Co.
International Harvester Co.

Trailers (Dump & Crawler Wheel)
Euclid Division
LeTourneau-Westinghouse Co.

Trailers (Heavy Equipment)
Rogers Bros. Corp.

Trenchers
Barber-Greene Co.
Clark Equipment Co., Construction Machinery Division
Cleveland Trencher Co.
Harnischfeger Corp.
Parsons Co.
Unit Crane and Shovel Corp.

Trestles (Adjustable Steel)
Safway Steel Products, Inc.

Truck (Dump) Bodies
Gar Wood Industries, Inc.

Trucks (Heavy Rear-Dump)
Euclid Division

Trucks (Motor)
International Harvester Co.

Trusses (Steel)
Macomber, Inc.

Tunnel Liner Plates
Armco Drainage & Metal Products
Irvington Form & Tank Corp.

Valves (Air-Self-Monring)
Dixon Valve & Coupling Co.

Wagons (Dump)
Austin-Western Co.
Caterpillar Tractor Co.
Euclid Division
LeTourneau-Westinghouse Co.

Walls
R. C. Mahon Co.

Washing Plants
Austin-Western Co.
Iowa Mfg. Co.

Wellpoint Systems
Griffin Wellpoint Corp.

Winches
Clyde Iron Works
Gar Wood Industries, Inc.
Superior-Lidgerwood-Mundy Corp.

Woodworking Equipment
De Walt, Inc.

SUPERIOR-LIDGERWOOD MUNDY CORPORATION

The First Name in

Hoists Carpullers

To learn more about this quality hoisting equipment,
write for bulletin H 414

SUPERIOR-LIDGERWOOD-MUNDY CORPORATION

MAIN OFFICE AND WORKS—SUPERIOR, WISC.

New York Office: 7 Dey Street, New York, N. Y.

BLAW-KNOX

CONCRETE BUCKETS

**Speed
work
Cut concrete
placing costs**



WHETHER you're placing fluid or dry concrete, big aggregate or normal stone, any specification—there's a size and type of Blaw-Knox Concrete Bucket to suit your needs:

Blaw-Knox Roller Gate Controllable Discharge Concrete Buckets for normal or low slump concrete for general construction work.

Blaw-Knox CAC Concrete Buckets with air operated clam gates for low slump mass concrete specifications.

Also, Tremie type buckets for placing concrete under water. See your nearest Blaw-Knox distributor for details.

BLAW-KNOX COMPANY
BLAW-KNOX EQUIPMENT DIVISION
Farmers Bank Building, Pittsburgh 22, Pa.

BLAW-KNOX

MANUFACTURERS LISTED IN GUIDE

J. D. Adams Mfg. Co.
Indianapolis 6, Ind.

Aero Design and Engineering Co.
Tulakes Airport
Oklahoma City, Okla.

Aetna Casualty & Surety Co.
Hartford 15, Conn.

Albert Pipe Supply Co.
Berry & N. 15th St.
Brooklyn 11, N. Y.

Allied Structural Steel Cos.
20 N. Wacker Drive
Chicago 6, Ill.

Allis-Chalmers Co.
Milwaukee 1, Wis.

America Fore Insurance Group
80 Maiden Lane
New York 38, N. Y.

American Casualty Co.
Reading, Pa.

American Hoist & Derrick Co.
St. Paul 1, Minn.

American Surety Co.
100 Broadway
New York 5, N. Y.

Armco Drainage & Metal Products, Inc.
2280 Curtis St.
Middletown, Ohio

Austin-Western Co.
Aurora, Ill.

Barber-Greene Co.
Aurora, Ill.

Barnes Mfg. Co.
603 N. Main St.
Mansfield, Ohio

Bethlehem Steel Co.
Bethlehem, Pa.

Blaw-Knox Division
2060 Farmers Bank Bldg.
Pittsburgh 22, Pa.

Bucyrus-Erie Co.
South Milwaukee, Wis.

L. Burmeister Co.
4527 W. Mitchell St.
Milwaukee 14, Wis.

C. H. & E. Mfg. Co.
3842 N. Palmer St.
Milwaukee 12, Wis.

C.I.T. Corp.
1 Park Ave.
New York 16, N. Y.

Carlyle Rubber Co.
62-64 Park Place
New York 7, N. Y.

Carver Pump Co.
Muscatine, Iowa

Caterpillar Tractor Co.
Peoria 8, Ill.

Ceco Steel Products Corp.
5601 W. 26th St.
Chicago 50, Ill.

Central Surety and Insurance Corp.
1737 McGee St.
Kansas City 10, Mo.

Chain Belt Co.
4625 W. Greenfield Ave.
Milwaukee 1, Wis.

Clark Equipment Co.
Construction Machinery Division
485 Second St.
Benton Harbor, Mich.

Cleveland Trencher Co.
20100 St. Clair Ave.
Cleveland 17, Ohio

Clyde Iron Works
Duluth 1, Minn.

Concrete Surfacing Machinery Co.
Cincinnati 32, Ohio

Connors Steel Division
H. K. Porter Co.
P. O. Box 2562
Birmingham, Ala.

Construction Machinery Co.
Waterloo, Iowa

Continental Motors Corp.
Muskegon, Mich.

Cummins Engine Co.
Columbus, Ind.

Detroit Diesel Engine Division,
General Motors Corp.
Detroit 28, Mich.

De Walt, Inc.
Lancaster, Pa.

Dixon Valve & Coupling Co.
Columbia & Hancock Sts.
Philadelphia 22, Pa.

Economy Forms Corp.
4301 E. 14th St.
Des Moines 13, Iowa

Electric Tamper & Equipment Co.
Ludington, Mich.

Employers Mutuals of Wausau
Wausau, Wis.

Essick Manufacturing Co.
1950 Santa Fe Ave.
Los Angeles, Calif.

Euclid Division
General Motors Corp.
Cleveland 17, Ohio

Fennel Instrument Corp. of America
478 Water St.
New York 2, N. Y.

Fidelity & Deposit Co.
Fidelity Bldg.
Baltimore 3, Md.

Fire Association of Philadelphia
401 Walnut St.
Philadelphia 6, Pa.

Flint Steel Corp.
P.O. Box 1289
Tulsa, Okla.

Feate Construction Equipment Division
Blaw-Knox Co.
1908 State St.
Nunda, N. Y.

Galion Iron Works & Mfg. Co.
Galion, Ohio

Gar Wood Industries, Inc.
Wayne, Mich.

Gateway Engineering Co.
3233 W. Grand Ave.
Chicago 51, Ill.

Gateway Erectors, Inc.
3233 W. Grand Ave.
Chicago 51, Ill.

Goodyear Tire & Rubber Co.
Akron 16, Ohio

Gorman-Rupp Co.
Mansfield, Ohio

Griffin Wellpoint Corp.
881 E. 141st St.
New York 54, N. Y.

Gulf Oil Corp.
Gulf Building
Pittsburgh 30, Pa.

Harnischfeger Corp.
4400 W. National Ave.
Milwaukee 46, Wis.

B. M. Heede, Inc.
80 Broad St.
New York 4, N. Y.

Heltzel Steel Form & Iron Co.
Warren, Ohio

Hope's Windows, Inc.
Jamestown, N. Y.

Hyatt Bearings Division
General Motors Corp.
Harrison, N. J.

Insurance Co. of North America
1600 Arch St.
Philadelphia, Pa.

(Continued on page 96)

CONTRACTOR'S RUBBER PRODUCTS

FOR
**IMMEDIATE
DELIVERY**
OF

AIR, WATER, SUCTION, FIRE,
STEAM, OIL, PILE DRIVER,
DREDGE SLEEVES, AND ALL
OTHER TYPES OF RUBBER
HOSE

ALSO—CONVEYOR, ELEVATOR,
MUCKER, PORTABLE CONVEYOR
AND OTHER TYPES OF RUBBER
BELTING

CARLYLE RUBBER CO., Inc.

62-64 PARK PLACE Digiav 9-3810 NEW YORK 7, N. Y.



Contract Bonds

A sound understanding of
the problems of the qualified
contractor who requires
surety credit

American Casualty Company
READING, PENNSYLVANIA

INDEX OF ADVERTISERS

A.G.C. Forms and Reports	86	Hyatt Bearings Division, General Motors Corp.	39
Adams, J. D., Manufacturing Co.	10	Agency—D. P. Brother & Co.	
Agency—Caldwell, Larkin & Co.		International Harvester Co.	45, 46, 47, 48
Aero Design and Engineering Co.	29	Agency—Leo Burnett Co.	
Agency—Tom P. Gordon Co.		Jackson Vibrators, Inc.	25
Allied Structural Steel Cos.	80	Agency—Stevens, Inc.	
Agency—The Fensholt Advertising Agency, Inc.		Johnson, C. S., Co.	53
Allis-Chalmers Tractor Division	30, 31	Agency—Andrews Agency, Inc.	
Agency—Bert S. Gittins, Advertising		Kawneer Co., The	34, 35
American Casualty Co.	94	Agency—Fuller & Smith & Ross, Inc.	
Agency—Marshall and Kumler		Kinnear Manufacturing Co., The	89
American Surety Co.	90	Agency—Wheeler-Kight and Gainey, Inc.	
Agency—Albert Frank-Cuenther Law, Inc.		Le Roi Co.	62, 63
Austin-Western Co.	Cover 2	Agency—Hoffman & York, Inc.	
Agency—Merrill, McEnroe & Associates, Inc.		LeTourneau-Westinghouse Co.	58, 59
Barber-Greene Co.	43	Agency—Andrews Agency, Inc.	
Agency—The Buchen Co.		Lone Star Cement Corp.	2
Barnes Manufacturing Co.	83	Agency—Cowan & Dengler, Inc.	
Agency—Odell and Associates		Macomber, Inc.	74
Bethlehem Steel Co.	84	Mahon, R. C., Co., The	18
Agency—Jones & Brakeley, Inc.		Agency—Anderson, Inc.	
Blaw-Knox Co., Blaw-Knox Equipment Division	93	Naylor Pipe Co.	42
Agency—Russell T. Gray, Inc.		Agency—Fred H. Ebersold, Inc.	
Burmeister, L., Co.	67	Northwest Engineering Co.	12
Agency—Western Advertising Agency		Agency—Russell T. Gray, Inc.	
C.I.T. Corp.	4	Owen Bucket Co.	57
Agency—Fuller & Smith & Ross, Inc.		Agency—T. H. Ball and Son	
Carlyle Rubber Co.	94	Parsons Co.	52
Caterpillar Tractor Co.	16, 17	Agency—Andrews Agency, Inc.	
Agency—N. W. Ayer & Son, Inc.		Perlite Division, Great Lakes Carbon Corp.	79
Central Surety and Insurance Corp.	82	Agency—Darwin H. Clark Co.	
Agency—Jerome G. Calvin Advertising Agency		Rogers Bros. Corp.	61
Clyde Iron Works, Inc.	Cover 4	Agency—T. H. Ball and Son	
Agency—Craves & Associates		Ryerson, Joseph T., & Son	1
Concrete Surfacing Machinery Co., The	92	Servicised Products Corp.	38
Connors Steel Division, H. K. Porter Co.	20	Agency—Ross Llewellyn, Inc.	
Agency—Robert Luckie & Co.		Shunk Manufacturing Co.	28
Construction Machinery Cos.	78	Agency—Wellman, Buschman & Hines, Inc.	
Agency—Weston-Barnett, Inc.		Sloane, H. A., Associates	43
Detroit Diesel Engine Division, General Motors Corp.	64	Agency—Posner-Zabin Advertising	
Agency—Kudner Agency, Inc.		Superior-Lidgerwood-Mundy Corp.	93
De Walt, Inc.	8	Agency—Albert Frank-Cuenther Law, Inc.	
Agency—Fletcher D. Richards, Inc.		Symons Clamp & Mfg. Co.	6
Economy Forms Corp.	66	Agency—Marsteller, Gebhardt and Reed, Inc.	
Agency—The Blakemore Co.		Timken Roller Bearing Co., The	68
Euclid Division, General Motors Corp.	Cover 3	Agency—Batten, Barton, Durstine & Osborn, Inc.	
Agency—Richard T. Brandy, Inc.		Trinity Division, General Portland Cement Co.	91
Fennel Instrument Corp. of America	66	Agency—Harris & Bond, Inc.	
Agency—Posner-Zabin Advertising		Truscon Steel Division, Republic Steel Corp.	26
Fidelity & Deposit Co.	88	Agency—Meldrum & Fewsmith, Inc.	
Agency—Emery Advertising Corp.		Unit Crane & Shovel Corp.	77
Fire Association of Philadelphia	76	Agency—Paulson-Gerlach & Associates, Inc.	
Agency—Lewis & Gilman, Inc.		United Air Lines	24
Galion Iron Works & Mfg. Co., The	14	Agency—N. W. Ayer & Son, Inc.	
Agency—The Morgan Advertising Co.		Universal Sewer Pipe Corp.	33
Gar Wood Industries, Inc.	71	Agency—Baker and Baker & Associates, Inc.	
Agency—Dobbins, Woodward & Co.		Vulcan Iron Works	90
Gateway Erectors, Inc.	92	Agency—The Biddle Co.	
Griffin Wellpoint Corp.	56	Walton Plywood Corp.	96
Agency—Posner-Zabin Advertising		Waukesha Motor Co.	87
Harnischfeger Corp.	72, 73	Agency—The Cramer-Krasselt Co.	
Agency—The Buchen Co.		Wisconsin Motor Corp.	25
Heede, B. M., Inc.	85	Agency—Paulson-Gerlach & Associates, Inc.	

MANUFACTURERS LISTED IN GUIDE

(Continued from page 94)

International Harvester Co.
180 N. Michigan Ave.
Chicago 1, Ill.

Iowa Mfg. Co.
Cedar Rapids, Iowa

Irvington Form & Tank Corp.
Irvington 22, N. Y.

Jaeger Machine Co.
528 Dublin Ave.
Columbus 16, Ohio

C. S. Johnson Co.
Champaign, Ill.

Kawneer Co.
1105 N. Grant St.
Niles, Mich.

Kinnear Mfg. Co.
650-680 Fields Ave.
Columbus 16, Ohio

Knickerbocker Co.
Jackson, Mich.

Koehring Co.
3026 W. Concordia Ave.
Milwaukee 16, Wis.

Kwik-Mix Co.
Port Washington, Wis.

Laclede Steel Co.
Arcade Bldg.
St. Louis 1, Mo.

Lehigh Portland Cement Co.
Allentown, Pa.

LeRoi Co.
1706 S. 68th St.
Milwaukee 14, Wis.

LeTourneau-Westinghouse Co.
Peoria 5, Ill.

Leyman Mfg. Corp.
Cincinnati 2, Ohio

Lone Star Cement Corp.
100 Park Ave.
New York 17, N. Y.

Macomber, Inc.
Canton 1, Ohio

R. C. Mahon Co.
Detroit 34, Wis.

Marlow Pumps
Ridgewood, N. J.

Marquette Cement Mfg. Co.
20 N. Wacker Drive
Chicago 6, Ill.

McKiernan-Terry Corp.
18 Park Row
New York 38, N. Y.

Medusa Portland Cement Co.
Midland Bldg.
Cleveland 15, Ohio

National Surety Corp.
4 Albany St.
New York, N. Y.

Naylor Pipe Co.
1280 E. 92d St.
Chicago 19, Ill.

Northwest Engineering Co.
Field Bldg., 135 S. LaSalle St.
Chicago 3, Ill.

Novo Engine Co.
212 Porter St.
Lansing 5, Mich.

O.K. Machinery Division
John C. Motter Printing Press Co.
1984 Florence St.
Columbia, Pa.

Owen Bucket Co.
7750 Breakwater Ave.
Cleveland 2, Ohio

Parsons Co.
Newton, Iowa

Peerless Pump Division
Food Machinery and Chemical Corp.
301 West Ave. 26
Los Angeles 31, Calif.

Perlite Division
Great Lakes Carbon Corp.
612 S. Flower St.
Los Angeles 17, Calif.

Rice Pump & Machine Co.
Grafton, Wis.

Rogers Bros. Corp.
225 Orchard St.
Albion, Pa.

Joseph T. Ryerson & Son, Inc.
P. O. Box 8000-A
Chicago 80, Ill.

Safway Steel Products, Inc.
6241 W. State St.
Milwaukee 13, Wis.

Servicised Products Corp.
6051 W. 65th St.
Chicago 38, Ill.

Shunk Manufacturing Co.
Bucyrus, Ohio

H. A. Sloane Associates
415 Lexington Ave.
New York 17, N. Y.

T. L. Smith Co.
2853 N. 32d St.
Milwaukee 10, Wis.

Sonoco Products Co.
Hartsville, S. C.

Sterling Machinery Corp.
1950 Santa Fe Ave.
Los Angeles 21, Calif.

Superior-Lidgerwood-Mundy Corp.
Superior, Wis.

Symons Clamp & Mfg. Co.
4259 W. Diversey Ave.
Chicago 39, Ill.

Thew Shovel Co.
Lorain, Ohio

Timken Roller Bearing Co.
Canton 6, Ohio

Trinity White, General Portland Cement Co.
111 W. Monroe St.
Chicago 3, Ill.

Truscon Steel Division
1100 Albert St.
Youngstown 1, Ohio

Unit Crane and Shovel Corp.
6507 W. Burnham St.
Milwaukee 14, Wis.

United Air Lines
5959 S. Cicero St.
Chicago 38, Ill.

Universal Atlas Cement Co.
100 Park Ave.
New York 17, N. Y.

Universal Concrete Pipe Co.
297 S. High St.
Columbus, Ohio

Universal Sewer Pipe Corp.
1500 Union Commerce Bldg.
Cleveland 14, Ohio

Vulcan Iron Works
329 North Bell Ave.
Chicago 12, Ill.

Walton Plywood Co.
644 E. 38th St.
Indianapolis 5, Ind.

Waukesha Motor Co.
Waukesha, Wis.

Wellman Engineering Co.
7015 Central Ave.
Cleveland 4, Ohio

Wisconsin Motor Corp.
Milwaukee 46, Wis.

Wedack Electric Tool Corp.
4627 W. Huron St.
Chicago 44, Ill.

Worthington Corp.—Constr. Equip. Div.
Plainfield, N. J.

WALTON'S FAMOUS *EverForm* PLASTIC SURFACED CONCRETE FORM PANELS provide maximum re-use value in all types of concrete form work. The sleek, durable, diamond-hard surfaces assure super-smooth concrete, longer "on the job" service and the ultimate in re-uses. The inner core of *EverForm* panels is waterproof (EXT-DFPA) Douglas Fir Plywood. Produced by one of the nation's pioneer Fir Plywood manufacturers.

Samples on request

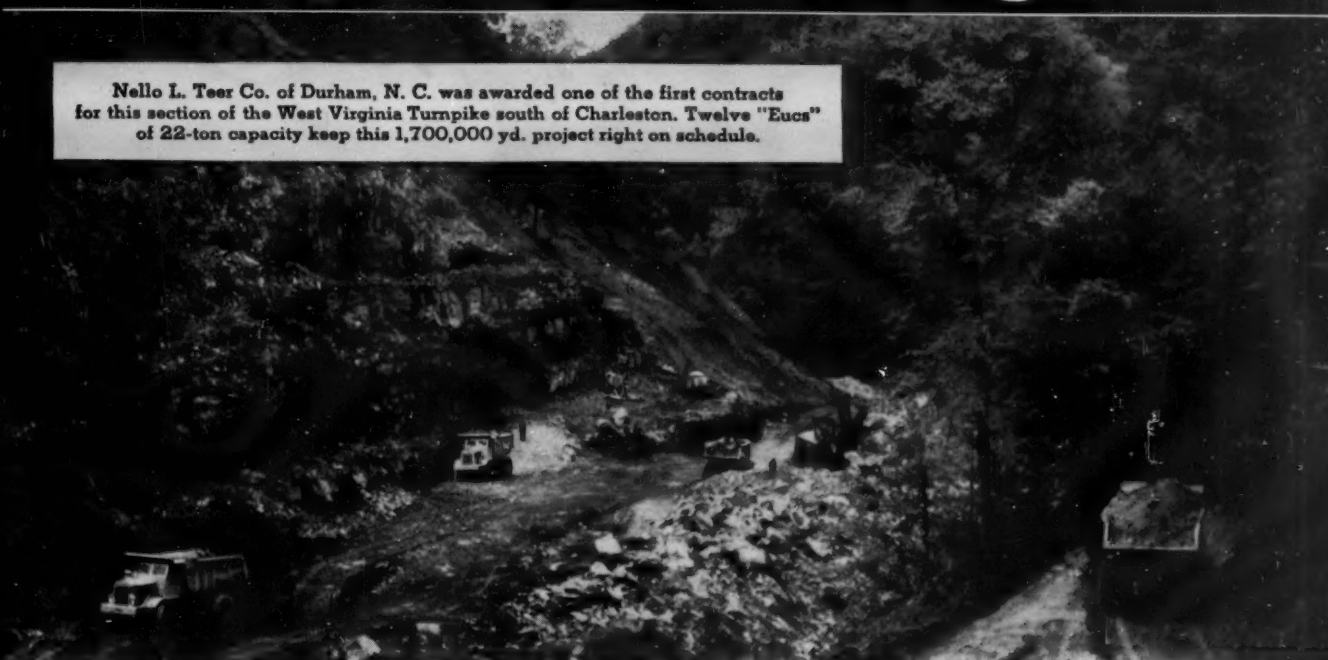
WALTON PLYWOOD COMPANY, INC.

General Sales Office
644 East 38th Street—Suite #205
Indianapolis 5, Indiana

Mill and General Offices
Everett, Washington

191 "Eucs" carving out a Turnpike in West Virginia

Nello L. Teer Co. of Durham, N. C. was awarded one of the first contracts for this section of the West Virginia Turnpike south of Charleston. Twelve "Eucs" of 22-ton capacity keep this 1,700,000 yd. project right on schedule.



BUILDING the 88-mile two-lane West Virginia Turnpike is a big, mighty tough job... over 25 million cubic yards of excavation, mostly rock. Some of the contract sections will run up to 600,000 cu. yds. of excavation per mile due to the rugged terrain which requires deep cuts and fills as high as 120 feet.

The contractors on this rush job—scheduled for completion June 1, 1954—have been almost unanimous in their selection of Euclid equipment for this heavy grading. They know from experience that they

can depend on "Eucs" to move more loads per hour at lowest cost... they know that "Eucs" have plenty of power to move big loads up steep grades and over the most difficult haul roads... and they know, too, that "Eucs" are tops for job availability when it comes to handling tough yardage.

Every day 191 "Eucs" are proving that the choice of these contractors was the right one. Your Euclid Distributor will be glad to show you why "Eucs" are your best bet for more production and more profit.



◀ On this section "Eucs" are loaded with heavy rock and shale by shovels of 2½ yd. capacity.

It takes plenty of power to haul 22-ton loads on grades that exceed 20% on many of these jobs! ▶



EUCLID DIVISION GENERAL MOTORS CORPORATION, Cleveland 17, Ohio



Euclid Equipment

FOR MOVING EARTH, ROCK, COAL AND ORE





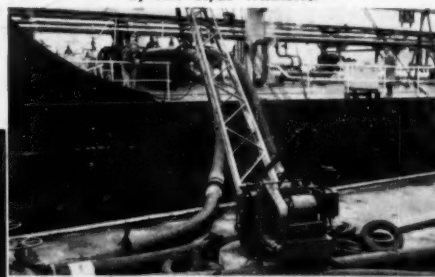
A Deck-Mounted Clyde Whirlette Handles Cargo Without Benefit of Dock Handling Facilities



Note the Small Amount of Space Needed for This Barge-Mounted Whirlette Handling Structural Steel



Operator Always Faces Load to Have Unrestricted Visibility of Working Area in Yard Served by this Clyde Whirlette.



ON DECK, DOCK, BARGE OR YARD... ON CONSTRUCTION AND DEMOLITION JOBS... WHIRLETTES

are "on top of the Job!"

Here's the Clyde Whirlette, a full-revolving steel derrick with a work capacity that is exceeded only by its versatility! Light enough to be practical as a 'top-side' derrick on multi-story construction... rugged enough to handle a ton load at 40' or five ton load at 10'... it's engineered to bear with pride the trade-mark of Clyde!

Bronze bushed, steel turntable has a machined double taper roller path on which four wide-faced steel wheels support rotating structure of boom, A-frame and hoist. Two-drum Clyde unit has efficient, single-cone, ball-bearing friction mechanism. Heavy-duty brakes permit full load control at all times.

SMOOTH, POSITIVE SWINGING . . .

Friction-disc clutches permit boom to be "inched" or swung a full circle at $\frac{3}{4}$ to $2\frac{1}{2}$ r.p.m. Single lever controls chain and bevel gear drive and automatically sets brakes when in neutral position. Tail swing of only 5' 6" permits working in congested areas where ground space is at a premium.

Many other important features of Clyde Whirlettes recommend them for a wide variety of material handling problems. Write for Complete Information Today!



Self-Contained Whirlette . . . An Ideal Material Handling Unit on Construction or Demolition Jobs.



A Dock-Mounted Whirlette Loads Equipment and Supplies from Dock to Dredging Barges.

Handling Bulky Hoses from Pipeline to Tanker is a Simple Task for the Compact Clyde Whirlette.



Hoists • Derricks • Whirlers • Builders Towers • Car Pullers • Hand Cranes • Rollers •

CLYDE IRON WORKS Inc.

ESTABLISHED 1899
DULUTH MINNESOTA
SUBSIDIARY OF BARIUM STEEL CORP.